

MANUFACTURERS' RECORD

A Weekly Southern Industrial and Hardware Newspaper.

VOL. 10. No. 3.
WEEKLY.

BALTIMORE, AUGUST 28, 1886.

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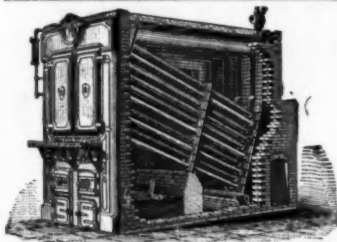
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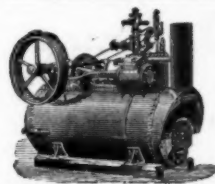
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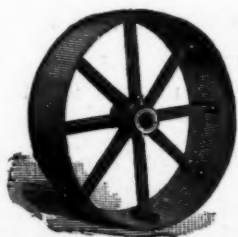
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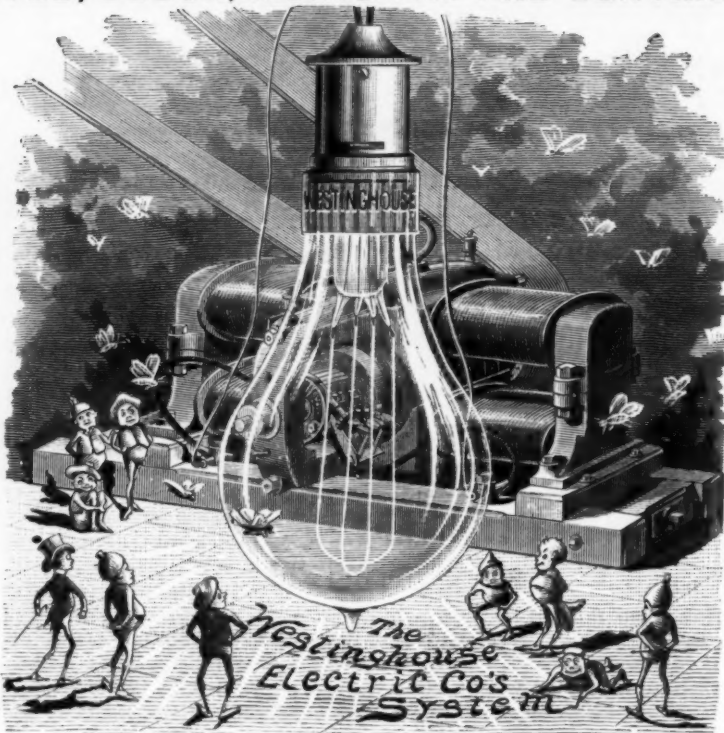
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CENTRAL STATIONS.

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Allegheny Co. E. L. Co., Pittsburgh, Pa.	2000 16 c. p.
" " " Allegheny, Pa.	1000 "
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Keystone L. & P. Co., Phila., Pa.	1500 "
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Westinghouse Ill. Co., Schenectady, N. Y.	1000 "
Oskaloosa, E. L. Co., Oskaloosa, Ia.	1000 "
East End E. L. Co. Pittsburgh, Pa.	600 "
Beaver Dam E. L. Co., Beaver Dam, Wis.	500 "
Butler E. L. Co., Butler, Pa.	300 "

ISOLATED PLANTS.

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Monongahela House, Pittsburgh, Pa.	800 "
Windsor Hotel, New York	600 "
Pennsylvania Lead Co., Pitts-burgh, Pa.	600 "
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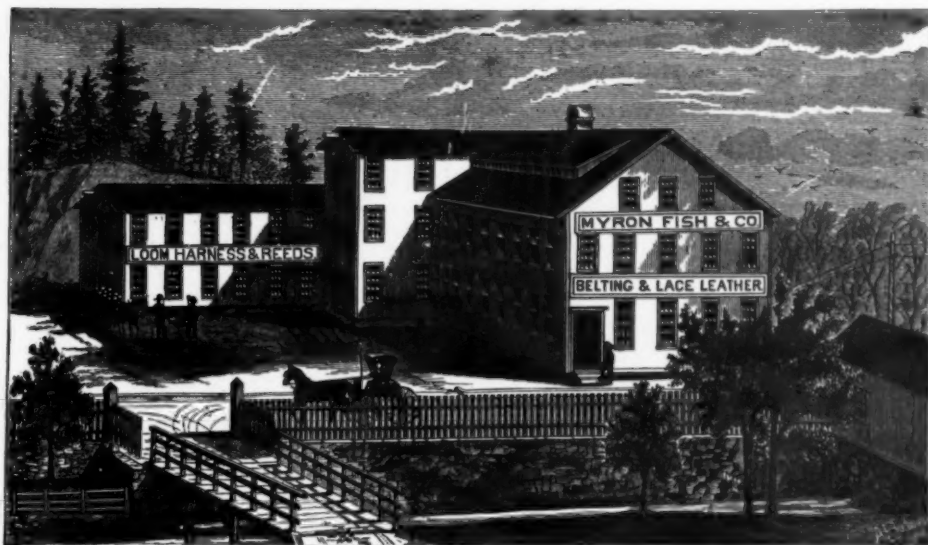
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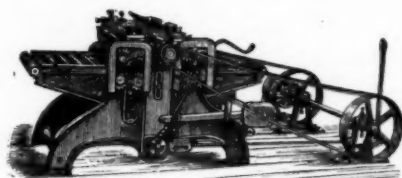
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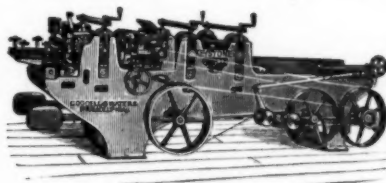
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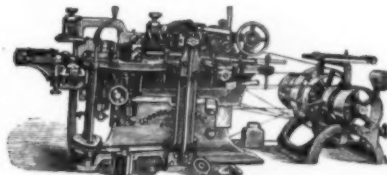
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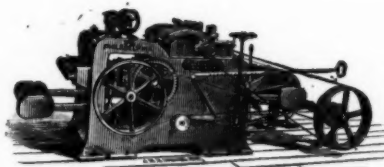
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Surfacing 100 lineal feet per minute.



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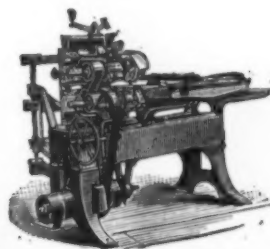


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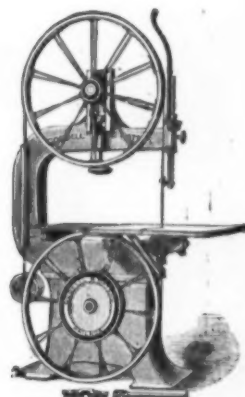
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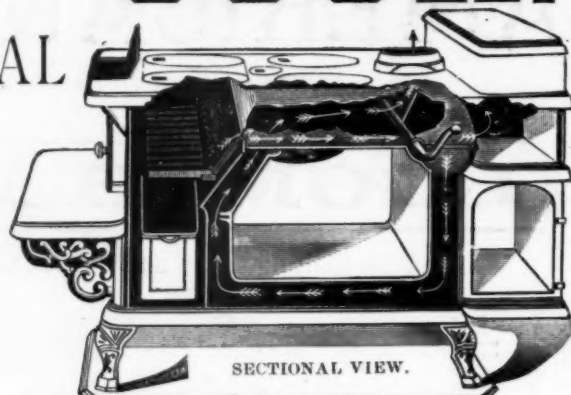
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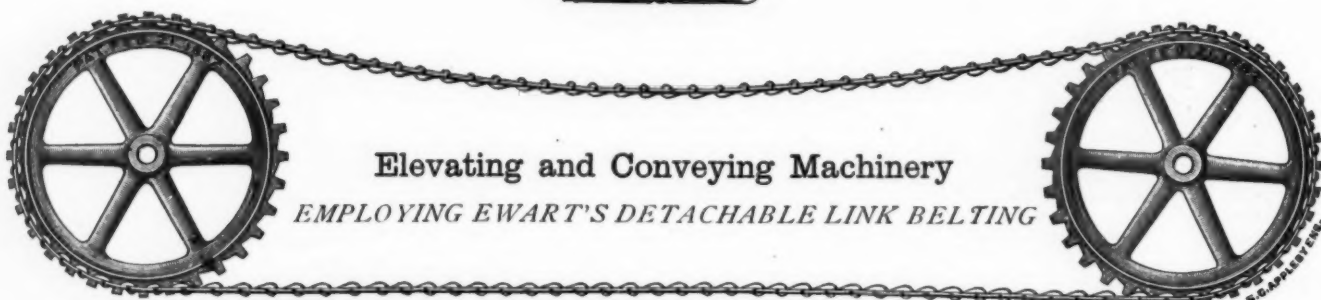
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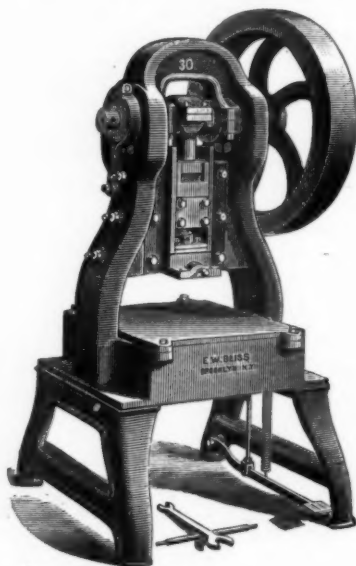
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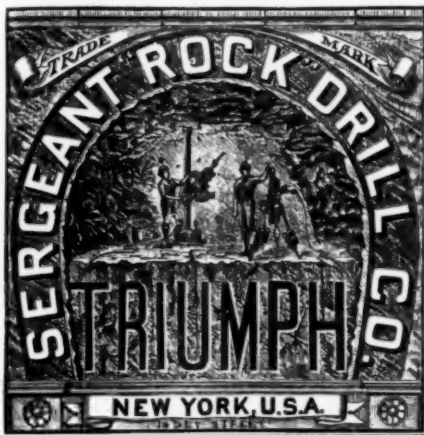
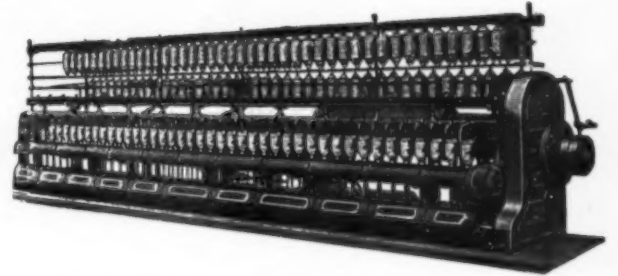
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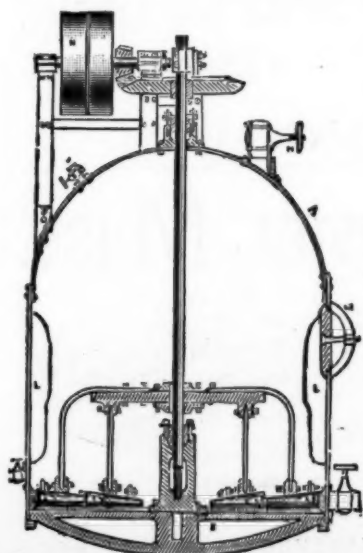
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The Only Method for Preparing the Ore for Amalgamation.

Disintegrating, Decomposing and Desulphurizing the ore under a HIGH TEMPERATURE and PRESSURE OF STEAM HEAT, with chemical action and attrition, dissolves and breaks up the chemical combination in the ores, individualizing, cleaning and separating the atoms of metal from the gangue, perfectly freeing them for amalgamation in combination with the MEECH AMALGAMATION MACHINE and process, (being the greatest combination of Amalgamation known,) will successfully extract 90 per cent. of the metal from rebellious ores, such as Sulphurets, Sulphates, Sulphides, Chlorides, Bromides, Oxides, Tellurides, &c.

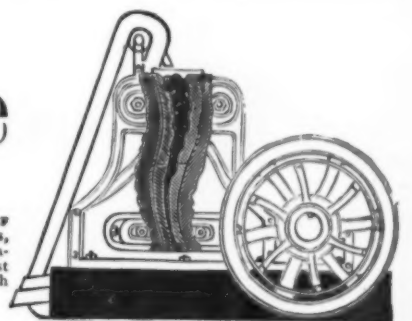
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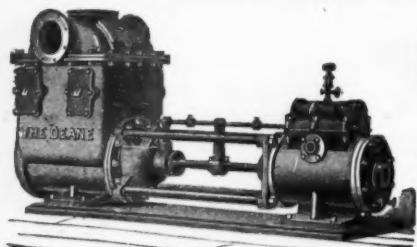
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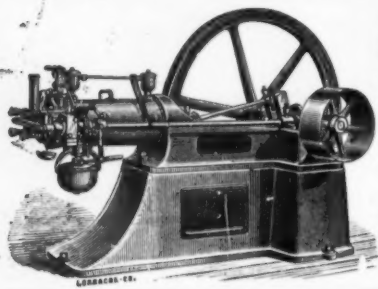
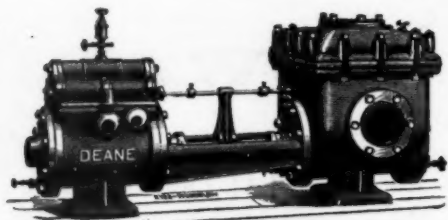
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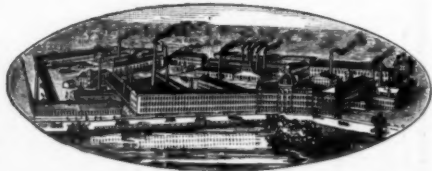
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BALTIMORE Manufacturers' Record.

PUBLISHED EVERY SATURDAY BY THE
MANUFACTURERS' RECORD CO.

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R. H. EDMONDS, *Treas.*
WM. H. EDMONDS, *Secy. & Manager.*

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BALTIMORE, AUGUST 28, 1886.

The Interest of the South in Protection.

People who are interested in the subject ought to be convinced by this time that the friends of Southern industry have not complained any too soon in regard to the tariff on foreign pig iron. Recent statistics go to show that the inflow of this disturbing element is growing in proportions enormously. We have long been familiar with the free-trade fib to the effect that foreign ores were introduced only to be used for admixture with native ores in the manufacture of Bessemer pig. It now appears that furnaces, ten or a dozen of them in New Jersey and Pennsylvania, are running on Spanish and West Indian ores for the production of ordinary grades of pig iron. The Iron Age and other Northern trade authorities point out the fact that this movement, which has been increasing rapidly during the past year, is extending still faster to the generality of furnaces located near enough to the coast to insure cheap delivery of the imported raw material. It is unnecessary to observe that this enlarged use of foreign pauper, slave or coolie ore, unless it be checked in some way, will exert a most depressing influence upon the iron mining interests of the whole country, but especially upon those of the Southern States nearest to the Eastern mineral region. Virginia has demonstrated to Congress and the public that by reason of the low tariff on foreign ore, and the consequent temptation to bring it in for the benefit of a small clique of coast pig iron men, unlimited deposits of superior ores in that State remain undeveloped and untouched. This detriment to native enterprise and industry extends to West Virginia and North Carolina. All these communities feel the grinding competition of the Spanish convict, the Cuban bondman or coolie, and the African slave. It is neither right nor necessary that the intelligent free labor of the Lake Superior region or of the Southern mineral States should be compelled to compete with productions of labor systems whose very existence it is the traditional duty of all good Eastern people to curse and pray against by

turns. But many of that class, particularly among the manufacturing element, are a good deal like the Yankee politician, who was "in favor of the Maine law but agin its enforcement." They invoke the vengeance of heaven upon the upholders of slavery, but struggle to have raw materials, the results of foreign slave labor, placed on the free list, that their pockets may be filled at the expense of the honest, free labor of their own countrymen. The phenomena of the wicked trade in these cut-throat foreign ores all prove that our law makers committed a grievous and hardly pardonable offence when they refused the prayer of the American Iron Ore Association to have the duty on iron ore raised to a point at which it would become really protective. In its ability to look at this and kindred questions from the point of view of its own material interests, as well as on the still more commanding consideration of good to the toiling industrial masses, the South has been making rapid strides for several years, but there is still some indifference in districts remote from the immediate scenes of our new activity. What the South needs more than anything else at this time is a solid representation at Washington, that shall take hold of this monster foreign competition with our own people and help to throttle it effectually. That a solid South, with the help that could be commanded from other directions, could accomplish this there is little reason to doubt. We have iron interests directly jeopardized by the machinations of the free traders. Our sugar and rice interests tremble before the menace of coolie and peon labor in other countries, and even our chief agricultural interest is not remote from the dangers of competition with East Indian cotton. In every part of the South, in every department of human effort, the stern necessity for making common cause against the common foreign enemy is apparent. Normally, such conditions should lead to a demand on the part of the people that their legislators should give the most undoubted guarantees of faithfulness to, and industrious and energetic action in behalf of the protection of their constituents against the outlandish influences which are working steadily and corruptly to break down the barriers that alone have enabled the American farmer, miner, mechanic and laborer to hold their own against the pauper productions of other lands. But it is to be feared that, notwithstanding this necessity, now generally conceded, the next Congressional elections may again serve to fill many Southern seats in the Capitol with judges, colonels and majors whose only thoughts while in Washington will be devoted to re-election for themselves and consulates and post-offices for the relatives and friends of the family. Too much stress can not be laid upon the duty of Southern voters to agitate the idea among their neighbors that it is unsafe to bestow

Congressional honors upon any man who is not honestly, fearlessly and pugnaciously bent upon seeing full justice done to American enterprise and labor against all the nations of the world.

Increase in Railroad Interest in the South.

As the South has entered upon what promises to be the most active period of railroad building ever known in that section, some facts regarding the growth of this business since 1880 may prove of interest.

The increase in railroad mileage from December 31, 1880, to December 31, 1885, was as follows:

States.	Mileage Dec. 31, '85.	Mileage Dec. 31, '80.	Increase miles.
Maryland.....	1,189.11	1,040	149.11
Virginia.....	2,692.83	1,893	799.83
North Carolina.....	2,027.70	1,486	541.70
South Carolina.....	1,687.10	1,427	260.10
Georgia.....	3,116.25	2,459	657.25
Florida.....	1,603.19	548	1,055.19
Alabama.....	2,225.95	1,843	382.96
Mississippi.....	1,920.29	1,127	793.29
Louisiana.....	1,370.46	652	718.46
Tennessee.....	2,157.54	1,843	314.54
Texas.....	6,687.37	3,244	3,443.37
Arkansas.....	2,146.18	559	1,587.18
Kentucky.....	2,009.94	1,530	479.94
West Virginia.....	1,038.82	631	347.82
Total.....	31,863.74	20,642	11,221.74

Texas, of course, shows the largest increase, the gain in that State being 3,443.37 miles; Arkansas following next with a gain of 1,287.18 miles, and Florida third with 1,055.19 miles. Virginia is fourth on the list with an increase of 799.83 miles. A clearer conception of the magnitude of this increase in the railroad interests of the South will be gained if we compare the total cost of all railroads and their equipment in that section on December 31, 1885, with the same for December 31, 1880, as given by Poors' Railroad Manual, the standard authority upon railroad matters. As compiled from this Manual, the comparison is as follows:

COST OF RAILROADS AND THEIR EQUIPMENT.

States.	Dec. 31, '85.	Dec. 31, '80.
Maryland.....	\$ 105,310,705	\$ 78,627,647
Virginia.....	290,294,411	111,460,670
North Carolina.....	44,800,320	23,807,234
South Carolina.....	44,553,876	30,424,656
Georgia.....	67,609,042	49,676,721
Florida.....	48,786,033	6,495,000
Alabama.....	69,766,305	78,162,210
Mississippi.....	18,424,599	8,176,072
Louisiana.....	84,057,672	44,869,349
Tennessee.....	159,294,379	46,606,741
Texas.....	284,464,292	102,178,143
Arkansas.....	51,197,009	18,438,045
Kentucky.....	157,353,861	69,261,896
West Virginia.....	17,623,152	11,620,622
Total.....	\$1,283,536,565	\$679,804,828

Thus in five years the actual cost of Southern railroads and their equipment has increased \$604,000,000. While the larger part of this has gone into the construction of new roads, very many millions have been absorbed in the improvement of old roads, the substitution of steel for iron rails, better rolling stock and other necessities of railroad business.

POORS' RAILROAD MANUAL for 1886, the standard authority of the country upon railroad matters, is now out. To every one interested in railroads this work is invaluable. The information that it gives can be obtained nowhere else. It contains over 1,000 pages, in which a condensed statement of the mileage, the financial condition, the names of officers, &c., of every railroad in the country are given.

A New Phase of Southern Progress.

The industrial growth of the South, that has for several years attracted so much attention, has lately been marked by a decided movement towards the wider diversification of manufactures. One of the most noticeable features of this change is the establishment of steel works in that section. At Chattanooga a 25-ton steel plant was lately put into operation, and has been running very successfully since. In the same city Bessemer steel rail works, to produce 150 tons a day, are under construction. A large steel plant has just been finished in Wheeling; and now Richmond is to have steel works with a daily capacity of 200 tons, while Knoxville will probably soon follow in the same line, as the Knoxville Iron Co. expect shortly to establish a steel plant. These facts mean that the South is no longer to be engaged in producing the raw material only, for others to turn into highly finished manufactured goods. The era of a wide diversification of industrial interests is now opening in the South, and the outlook for a solid and substantial development of the South's manufactures grows more promising every day.

Two important meetings have lately been held in Atlanta and Richmond. Both had for their object the awakening of a general interest among the business men of these cities in manufacturing. The wide-awake, progressive people of the South are fast realizing that the prosperity of Southern cities depends upon manufactures. They see that wherever manufactures flourish all branches of trade are prosperous, and so Richmond and Atlanta are disposed to make some special effort to build up their industrial interests. Birmingham is a good illustration of persistent work in this line. No one who goes to Birmingham with a view to establish a new enterprise fails to receive every possible encouragement. In many cases a site is either donated or put into stock at a low figure; business men take hold of the stock of new companies liberally, and the man who desires to locate in Birmingham is not left to wander around alone hunting for a site or trying to find out what the advantages of the place are. If other towns want to rival Birmingham's growth they must imitate Birmingham's enterprise and push.

WE congratulate the Northwestern Lumberman upon the success of its suit against the publishers of a new paper who adopted the title The Lumberman apparently with a view to build up their business on the reputation of the old standard Northwestern Lumberman. The new paper has changed its title to the Timberman.

THE TIME TABLE, published in New York by W. B. Hopson, appears with a new design, covering the entire front page, that is one of the most appropriate pieces of work of that kind that we have ever seen. The Time Table continues to improve, and gives evidence of increasing prosperity,

OUR BIRMINGHAM LETTER.

Developments in Railroad Matters—Continued Activity in Real Estate.

[Special correspondence MANUFACTURERS' RECORD.]

BIRMINGHAM, ALA., August 23, 1886.

Interest just now appears to centre in the railway situation, which seems to grow more interesting every day. Last week I mentioned something about the Baltimore & Ohio connection, so much hoped for in this city and district. This week there is a report abroad of an almost equally sensational nature. It is said that a combination of Louisville & Nashville and Standard Oil interests has bought out the Georgia Central. This, if true, means a great deal. The Kansas City, Memphis & Birmingham people have, I suppose, depended upon the Georgia Central as their ally and outlet to Savannah, and it has been generally believed that a close arrangement between the two had been effected. Of course, these railway reports contain truth sometimes in varying degree, but there is a strong color of probability in the one just referred to. It is assumed here that the Kansas City, Memphis & Birmingham scheme has its principal backer in Mr. Phil Armour, of Chicago. As I have before remarked in these columns, Mr. Armour is a gentleman who is understood not to march in the same regiment with Mr. Gould. The latter, it is said, is so little pleased with the Birmingham railway project of his pork packing friend, that he is already in the field with a parallel line to Memphis. Now, supposing that Mr. Gould, the Standard Oil Co. and the L. & N. people were on a mutually pleasant footing, there is nothing strange in such a solution as that they should co-operate to shut off the Kansas City invasion of the territory east and southeast of this point, by gobbling the Georgia Central themselves. This theory would also involve the probability that Mr. Gould intended to build a line from Memphis to Birmingham, and to avail himself of the route to Savannah. Stranger things have happened, and in railway circles it is thought that the railway king will have to make some demonstration this way if he would win his share of the new development of the South.

The Mobile & Grand Trunk Company has advertised for proposals for an iron bridge across the Tombigbee river at Jackson, Mississippi, which makes it look as if that line, recently purchased by the E. T. V. & G., was really to be put through at once. "Take one consideration with another," the prospects in the line of the iron horse are brilliant enough.

That there is something new in the wind in connection with the current movement of real estate in Birmingham has been dawning on the minds of local operators for several days. The magical appreciation of values has been a matter for some surprise for more than a month, but the speculative sentiment was attributed largely to discounts on prospective railway and manufacturing developments, until the opening of last week. Then it began to occur to students of the situation that there was more money going into real estate at ruling figures than the ready money resources of the home folk would seem to justify. What the coming sensation at the bottom of the boom for the past ten days may be I confess is all darkness to me, but that there is something appears probable enough. No description of property within reach of the business of the city has escaped attention, and prices have again advanced all around. The office of the Elyton Land Co. looks like an auction shop, crowded as it is with anxious buyers. One day last week I went there with a gentleman who wanted four blocks in the Highlands, on the dummy line. He looked over the map, examined the surroundings, and ascertained the price,

which was \$20 per front foot. Having determined to purchase and calculated the amount, he started for his office to fill out a cheque, failing, however, to close a trade on the spot. During his absence of 15 minutes the property was picked up by another operator, who resold it next day for \$26 per front foot. Dr. Caldwell's sales for the week were again in the neighborhood of half a million. No wonder that his company has declared 100 per cent. of its capital stock in dividends since January 1, 1886.

In the west end of Birmingham is a fine suburban district opposite to the South Highlands. That part of it called Fountain Heights is receiving more attention than has ever been accorded it before. Here Mr. Sam Thomas and his son, Mr. Edwin Thomas, of Pennsylvania, have secured fine residence properties, and adjoining them the gentlemen connected with the Louisville Stove Co. have settled also. The street car line now under construction to the Pratt mines passes through the territory, and lots in the neighborhood have climbed so rapidly that the prices asked almost touch those in the most favored situations on the other Highlands. But this is only an instance of the universal boom. There is still very active inquiry for property suitable for manufacturing plants. The proprietors of the Hardie sugar machinery and pipe plant are in the market looking for a new site. Their present one, a couple of blocks from the Sloss Furnace, toward the centre of town, is very unsatisfactory, and they propose to move it. One of their reasons for proposing the change will be sufficient to note. The property on which their establishment flourishes is now worth \$200,000, and the management think that a trifle too high for a bottom on which to maintain a foundry. They may probably cut up the old site into business lots and sell them. All property adapted to industrial uses is in great request, and this fact rather tends to strengthen the opinion that the hidden hand in the market has some connection with manufacturing projects. It was stated several weeks ago that a syndicate had been formed in New York and London to buy up \$10,000,000 worth of assorted property in this city and district. I did not credit it at the time, but it really looks now as if something of the sort were not impossible after all. Then it is believed by some of my acquaintance that the Standard Oil people have been forestalling their Georgia Central coup by making heavy purchases. Naturally, nobody knows anything very definite, but I do not think it will be many days before the bag will burst and the cat emerge from the same.

The prospect for better prices for pig iron has caused the retirement of one, and perhaps two, of our furnaces from the market. All report an advancing pressure for future deliveries at present prices. In some cases round lots have been sold to the East at a quotable advance over previous figures, but the difference has not yet been realized with sufficient uniformity to justify a statement of actual advance. No. 1 foundry iron may be quoted at \$15@15.50 at the furnace. All the iron masters I have met for several days appear confident that prices will go up. Production increases, but consumption is almost unprecedented. Every little boiler shop and foundry the country through is making money and using iron. "Result: happiness!" as Mr. Wilkins Micawber would say.

G. B. WEST.

MANAGERS of mills, factories, furnaces, mines, etc., and parties starting manufacturing enterprises, and needing machinery or supplies of any kind, will find it profitable to consult the advertising columns of the MANUFACTURERS' RECORD. Its pages contain names of the best houses in the country among manufacturers of and dealers in machinery and mill supplies.

Durham's Big Tobacco Factories.

Growth of a Wonderful Town—Laborers in Great Demand.

[Special correspondence MANUFACTURERS' RECORD.]

DURHAM, N. C., August 21, 1886.

About twenty years ago a traveler in passing along the railroad at this point would have stopped at a very insignificant water station, with few houses and not more than 200 inhabitants all told, and most probably he would have learned that he had arrived at Durham. A few stores were driving a little business, and the brawny and ubiquitous blacksmith was doing his best in his line. The place was hardly such an one as to attract attention, but let the aforesaid traveler pass that way now, and such a transformation will meet his astonished gaze as he never could have dreamed of, or conjured up in the wildest flights of his imagination. The present site of Durham, which was originally 130 acres, was purchased for the moderate sum of \$90. Now real estate is high, having appreciated several thousand per cent., and the whole country for miles around the town is held by persons who have made fortunate investments of their capital. In 1869 Durham had less than 300 inhabitants, showing a very small increase from 1865,—the closing year of the war. In 1876 the population had increased to about 2,000, and to-day it stands as one of the most driving, go-ahead and thriving towns in the country, with a population of 7,000 people, all more or less actively engaged in the various industries. The chief industry of the town, and the one from which it has derived the great wealth of which it can truly boast, is the manufacture and sale of tobacco in various ways. Durham is the great center of the bright tobacco growing district of this section of country, and millions upon millions of pounds are used up yearly in the manufacture of plug and smoking tobacco and cigarettes, and in its immense and ever-increasing export of leaf to foreign countries. When the war closed there was but one small tobacco factory in Durham, a two-story frame building, owned and operated by Mr. Jno. R. Green, who furnished this "sweet consolation" to many a "boy in gray" during the prolonged struggle. On the decease of Mr. Green, in 1869, the property was purchased by Messrs. W. T. Blackwell & Co., who put large capital and new energy into the enterprise, and to-day the Blackwell Durham Tobacco Company holds the proud position of being the largest, most flourishing and best known smoking tobacco manufacturing company in the country, having its ramifications in trade throughout the known world. An idea of the immensity of the works may be had when we state that they occupy an area of three or more acres of land, and employ in the various departments of the business nearly 1,000 hands. Everything that is necessary to the business that can be done, is done on the premises, and the whole work is carried on with the precision of clock-work, under the supervision of the heads in the different lines; the great whole being entirely under the unequalled management of the genius of the company, Mr. Julian S. Carr, the courteous, able and efficient president. The company manufactures into smoking tobacco and cigarettes about 7,000,000 pounds of tobacco per year, and carry a stock of about 7,000,000 pounds of leaf on hand all the time. At this time a gentleman in their employ is making a trip around the world, having left San Francisco in May, to take orders for their renowned brands, and to place the trade mark of the Durham tobacco in the most conspicuous spots along his route. On his return, after an eighteen months' trip, he will have made an advertising belt around the world of Durham Bull Smoking Tobacco. If this be not enterprise, we don't know by what other name to designate it. Another noted industry in Durham is the cigarette

factory of Messrs. W. Duke, Sons & Co. Mr. Duke, the senior, came out of the war, along with many others in the same category, in a condition amounting to being a little worse off than nothing; his only property left being a wagon and pair of mules. Instead of sitting down and moping over losses, he went to work and sold wagon load after wagon load of tobacco in the surrounding country. With courage, energy and ability to save money, he soon found himself, in the latter part of 1865, engaged in the manufacture of smoking tobacco, about three miles outside of town, in a small building 14x18 feet in extent. He subsequently moved into the town, and his business extended and increased. The present firm is composed of the sons of the originator, and they have very probably the largest cigarette business in the world. Their factory in Durham is a four-story structure of imposing appearance, 18x84 feet, containing 40,000 square feet of floorage; while their works, including storage warehouses, etc., occupy about three acres of ground. They employ 600 hands in this, and have two other factories, one in Washington, D. C., employing 250 hands, and another in New York, employing 300 hands, all engaged in the manufacture of cigarettes. The reason why these factories were started in the two last named places was because they had to go to the labor, which would not come to them. They want now 1,000 more hands, so great is the demand for their goods. I would say here that in no part of the South is there a greater demand for honest, painstaking labor than in the town of Durham. Messrs. Duke & Sons are now about to occupy another factory in New York of equal capacity of that already established, in order to meet the requirements of their business. Five years ago the pay-roll of this firm was \$400 per month; now it is more than \$6,000 per week, which gives one an idea of their business. Their success is as phenomenal as it is deserved, and it is as much the wonder of the people of Durham as of those more remote. There are other firms engaged in the manufacture of smoking tobacco, and taking them all in, one can imagine that enough of this article is being manufactured just here to last until doomsday. The R. F. Morris & Son Manufacturing Co., W. H. Willard, president, and S. F. Tomlinson, secretary and treasurer, was established in 1865. They manufacture snuff and smoking tobacco. Their capacity in the former article is 150,000 pounds and in the latter 300,000 per year. Their machinery is of the best, and their market is in the South, in California and the Northwestern States. R. T. Faucett is the proprietor of another smoking tobacco factory, making at present at the rate of about 300,000 pounds per year. When in full force he makes 40,000 pounds per month of all grades. Employs 30 hands; has markets all over the country, and exports largely. He began business in 1871, was burnt out in 1877, and immediately rebuilt. He manufactures also a favorite brand of cigarettes. Mr. Jas. G. Whittles manufactures plug and a moderate quantity of smoking tobacco. He formerly resided in Hillsboro, and three years ago moved to Durham, since which time his business has steadily increased. He makes 1,000 lbs. per day of plug, employs about 45 hands, and has a market throughout the Southern States and Pennsylvania. In the leaf tobacco business, Mr. E. J. Parrish stands pre-eminent as the leader in this line. He owns a large sales warehouse, 56x360 feet, with sheds on each side for the shelter of wagons and teams. He employs a force in this and his prized tobacco houses of 110 hands. He exports bright tobacco to the markets of Bremen, Liverpool, London and Glasgow. He is now filling an order for 1,000,000 lbs. from one manufacturer. The largest sales ever made by him in his warehouse in one year aggregated 8,330,000 lbs., amounting to \$990,000. He does a

business of a million and a quarter per year. Next in this line is the "Banner Warehouse," owned by Mr. Jno. S. Lockhart. He has besides, three warehouses for handling and assorting leaf for export; is building in addition a large four-story leaf tobacco barn. He sold from October, 1884, to October, 1885, 3,000,000 lbs. This year his sales will amount to 4,500,000 lbs. These are all bright tobaccos, and find market all over the world and bring high prices. Five years ago sales of leaf aggregated about eight millions; now they are over twenty.

Want of space forbidding, I must now leave the tobacco interests and note other great and important industries, which are building up not only Durham but the South. The Durham Cotton Manufacturing Co. have one of the finest mills and most extensive plants of any in the country. It has a magnificent Watts-Campbell Corliss engine of 300-horse-power, driving 8,568 spindles, the largest number in the State, and 200 looms; all kinds of improved machinery, including a Dann's warper, doing the work of 3 circular machines; a Worthington steam pump, to be used in case of fire, throwing 500 gallons a minute, besides patent sprinklers all over the building. It is lighted throughout with Edison's incandescent burners. It is manufacturing sheetings and Chambray ginghams of the finest quality, employing 200 hands. The mill was equipped by the Bridesburg Machine Co., of Philadelphia. The white goods manufactured are sold mostly in Durham for tobacco bags, and other goods in New York. The capacity for the former is 4,000 yards, and the latter 5,000 yards per day. The Durham Bobbin & Shuttle Mills is a very important industry, and the only enterprise of the kind in the South. They manufacture a complete line of wooden goods, and are now filling an order for 50,000 bobbins for a Philadelphia house. The capacity is about 90,000 pieces of all kinds per week—for cotton, wool, silk, jute, flax and worsted mills. The world is the market. Mr. J. C. Angier is the founder and the efficient president of the company. The Durham Fertilizer Co., S. T. Morgan, president, manufactures a superior quality of goods, the basis of which is tobacco dust. The analysis shows of ammonia $2\frac{1}{4}$ to 3%, potash $2\frac{1}{2}$ to 3%, phosphoric $7\frac{1}{2}$ to 9%. Their market is in Virginia and North Carolina, and last year they sold their stock entirely out. They make about 20 tons per day. Lewis Blount has just completed a new machine shop, which is supplied with first-class machinery; has also a foundry doing all kinds of mouldings, more particularly architectural designs. He works from 15 to 18 hands, and is the only machinist in the city.

Durham is governed by a corporation consisting of a mayor, town commission and a police force. She will soon be a large city, when she gets her railroad here from Lynchburg, running through South Boston, Va., and Roxboro, N. C., to Durham; thence from here through Chatham county to Sanford, and there connecting with the Cape Fear & Yadkin Valley and the Raleigh & Augusta Railroads, thus giving competing lines to all points South, and opening up a splendid new tobacco country. All that Durham requires to make her a very large city, indeed, is more money and cheaper money, and it would pay some of our Northern capitalists to establish more banking facilities here. \$100,000 could be put out in a little while on first-class security at 8%. There are but two banks here, the Bank of Durham and Moorehead's Bank, both private institutions. W. M. P.

ONE of the daintiest publications in the country for the little folks is "Babyland," one of the monthly magazines of Messrs. D. Lothrop & Co., of Boston, who have given so much attention to books and magazines for the children. Babyland is intended for the babies, and is only 50 cts. a year.

A Cotton Manufacturing Center.

What One Family Has Done in Building Cotton Mills.

[Special correspondence MANUFACTURERS' RECORD.]

GRAHAM, N. C., August 23, 1886.

This little town of 300 inhabitants is the county seat of Alamance and the center of the great cotton spinning interests of this section. The first factory for the manufacture of the staple in this State was started in 1837, in Alamance county, by E. M. Holt, Esq., who was the originator and founder of the first plaid mill south of the Potomac river. How wonderfully the industry has increased at the hands of his energetic sons and their descendants is shown in the splendid factories now owned and operated by them, whose products are sought after in nearly all the markets of the country. In the past 15 years this section has progressed in this peculiar industry in a manner which may be termed phenomenal. During the war there were but 2,000 spindles in all the combined mills; now there are 35,000 engaged in the work. The chief among these important factories is the Granite Cotton Mills, on Haw river, owned and operated by Col. Thos. M. Holt, oldest son of the great pioneer. These mills were built in 1845 by a joint stock company, and were a very small affair, having only 528 spindles and doing a very small business. In 1859 the property was purchased by the present owner, improved by every appliance necessary to the work of the very best possible description, and brought to its present standard of excellence and importance. The mills now run 8,484 spindles, the largest number run by any mill in the State save one, and 434 looms, the whole engaged in the manufacture of a superior quality of plaids, which are sold in every market in the country, excepting only those of New England. Four hundred and twenty-five hands are employed in this enterprise, who occupy neat and comfortable houses, 60 in all, which surround the mills, making a very striking looking and picturesque village. The mills are run by both steam and water power. There are 7 boilers of 60 horse-power each and 2 engines, one of 400 horse-power, which drives the mill, and the other of 100 horse-power, which drives the dyeing machinery and the dynamo, flooding the whole immense establishment with electric light. The boilers were built by the Whittier Machine Co., of Boston, Mass., and the engines by Jerome Wheeler, of Worcester, same State. In the water power, two Hercules turbines of 60 and 40 inches, respectively, are used. Of the picking machines, two were built by Whitehead & Atherton, of Lowell, and one by the Whitin Machine Co., of Whitinsville, Mass. The carding and drawing frames were also built by the last-named company. The chibbers, intermediates and flyer frames were made by the City Machine Co., Providence, R. I.; the spinners by the Whitin Machine Co., and the looms, quillers, beamers and dye-house machinery by Thomas Woods & Co., Philadelphia. The Granite Mills are kept in full operation the whole year round. Of the proprietor, Col. Holt, much may be said which may be of interest to the reader, particularly so when it is known that he is the architect of his own large fortune, a man of great personal popularity, and might now, had he allowed his name to be used at the convention for making gubernatorial nominations, be occupying the proud position of Governor of his State. He is a man of fine presence, of broad views upon the various absorbing topics of the day, and occupied the chair of the speaker of the House of Delegates at the last session to the satisfaction of every one. He is a thorough man of progress and eminently fitted for any office which the future may have in store for him.

The Glencoe Cotton Mills, also on Haw river, are owned and operated by Messrs. W. E. & J. H. Holt. They are run by water

power alone, using one of Poole & Hunt's turbines, which drives 3,120 spindles and 187 looms, employing 150 hands in the manufacture of plaid goods. The markets for the goods of these mills, which have a capacity of about 9,000 yards per day, are found in the North, South and West.

The Carolina Mills, on Haw river, are owned and operated by Messrs. J. H. & W. E. Holt & Co. These mills have a capacity of about 3,000 yards of plaids per day. They are run by water power, using one of the American turbines, which drives 3,000 spindles and 56 looms. Knitting cotton is also made. The mills were built in 1859 and employ 110 hands. The spinning machinery was made by the Bridesburg Manufacturing Co., of Philadelphia, and also some of the cards; the balance by the Danforth Machine Works. These goods find ready sale in the Northwestern, Western and Southern markets.

The Oneida Mills, at Graham, are owned and operated by L. Banks Holt, Esq. An 80 horse-power boiler, built at the Erie City Works, and a 65 horse-power Westinghouse Engine drive 1,560 spindles and 106 looms; making 5,000 yards of plaids per day, with a force of 100 hands. All parts of the country, save New England, are markets for these goods.

The E. M. Holt Mills, at Company's Shops, are owned and operated by a corporation composed of the brothers Holt, who erected these mills in honor of their father. They run 100 looms, employ 60 hands, and make 5,000 yards of plaids per day. The mills were built in 1883, and the looms and shafting were made by Thos. Woods & Co., of Philadelphia. These mills are under the sole management of Mr. Wm. A. Erwin, the able and efficient secretary and treasurer of the company.

There are also the Altamahaw Mills, Messrs. Holt, Gant & Holt, proprietors; the Aurora Mills, L. S. Holt, proprietor; the Belmont Mills, Messrs. L. B. & L. S. Holt, proprietors; the Saxapahaw Mills, Messrs. White, Williamson & Co., proprietors; the Ossipee Mills, J. N. Williamson, proprietor; and the old original Alamance Mill, run by a corporation known as E. M. Holt's Sons. Two other cotton mills are in course of erection, one at Haw river, by Col. Thos. M. Holt, the other at Company's Shops, by Messrs. W. L. & E. C. Holt. This firm is composed of brisk, enterprising young men of great business pluck and energy, who belong to the third generation of this renowned family of cotton spinners. Their mill will be running by January 1, 1887, and will be supplied with the finest machinery of the newest patents and greatest capacity. They will run 2,500 spindles and 140 looms, and will manufacture plaid goods altogether. We bespeak for them that success which their enterprise undoubtedly merits.

With all these facts, who will carp at the oft-repeated statement of the wondrous growth of the South in her manufacturing interests? The days of the South as an alone consumer have passed, and she stands forth now taking the lead in certain enterprises, making way for others, opening her doors to receive honest, well-meaning labor, but has no room for drones or agitators, offering profitable investments to home and foreign capital, and showing to the world the great probabilities of immense success and future great prosperity as the result of the employment of her latent and inherent faculties. Let those who would blindly and ignorantly carp but open their eyes and see, and they will be amazed to find what has been accomplished in a few years by energy and pluck, born of necessity and disaster, and after a struggle without a parallel in the history of warfare. W. M. P.

ADVERTISERS wishing to reach the manufacturers of all classes, mining companies, steel, iron and hardware dealers of the entire South, cannot find a better medium than the MANUFACTURERS' RECORD.

The Purchase of East Tennessee Coal Lands.

NEW YORK, August 19, 1886.

Editor *Manufacturers' Record*:

As the representative of a syndicate of capitalist, I have purchased a controlling interest in the great Cumberland Mountain coal fields, lying in East Tennessee, between the Knoxville & Ohio and Cincinnati Southern Railroads.

These lands, in addition to being the largest solid body of coal lands in the United States, if not in the world, are heavily timbered and contain inexhaustible deposits of iron ore and limestone, and being reached by two railroad systems, they seemed to the writer to offer a richer field for investment than was to be found elsewhere, and are bound to become more and more valuable as the years roll round.

The coal is the finest quality of bituminous coal, and can be shipped and stocked for any length of time; and from it coke, equal to Connellsville coke, can be made.

The celebrated Black Diamond, Coal Creek and Poplar Creek coals, well known in all the markets of the South Atlantic and Gulf States as the finest domestic and gas coal reaching those markets, all come from this property. It is proposed to establish iron works on the property, and it is believed that iron can there be made at a lower cost than at any point in the United States, and as smelting furnaces will be within thirty miles of Knoxville, that city would seem to offer great inducements as a prospective iron center. Indeed, it is not improbable that at no distant day Knoxville will be the Pittsburgh of the South; and East Tennessee will, on account of its immense natural resources, be literally a teeming hive of industry. It is to-day the most attractive field for investment in America. E. R. CHAPMAN.

To Build a Big Railroad.

FORT SCOTT, KANSAS, August 16, 1886.

Editor *Manufacturers' Record*:

We organized two companies on the 10th to build a road from Fort Scott to New Orleans on most practicable direct line. We organized two companies (same parties in interest) because we run across a considerable portion of Mississippi, and in that State we purchased a charter granted four years ago by the legislature to the New Orleans & Northwestern Railroad Co. We were compelled to organize under that name, which we did at Natchez, with John H. Rice, of Fort Scott, Kansas, president; L. L. Bush, of Lancaster, Pa., vice-president and general manager; H. R. M. Whitman, of Philadelphia, chief engineer. We then went over to Vidalia, in Louisiana, and filed a charter in the court, under the laws of that State, and organized them under the name of the New Orleans, Natchez & Fort Scott Railroad Co. We are going to build this road. It is building northwest from here across Kansas, under the name of "Kansas, Nebraska & Dakota." 135 miles graded; cars running to-day on 60 miles. From Fort Scott to New Orleans by our projected line is 640 miles—via Hot Springs, Ark. Over 200 miles will run through the finest pine forest left to-day in America. It will run through Washita River Valley across North Louisiana, a country as rich as the Delta of the Nile.

Natchez gives us \$300,000 and free right of way and landings across river, and Adams county and each parish through which the road will run in Louisiana gives a 5-mill tax for 10 years and free right of way. We are under contract to commence work at Vidalia, La., and build northwest on 1st day of November next. JOHN H. RICE.

THE Clay Worker, of Indianapolis, Ind., is an interesting journal of much value to all clay workers, including manufacturers of brick, tile, terra cotta, sewer pipe, pottery, etc.

CONSTRUCTION DEPARTMENT.

WE PUBLISH, every week, a list of every new factory, of whatever kind, projected anywhere in the South; every railroad undertaken, and every mining company organized. This information is always fresh, and, by enabling manufacturers to correspond with the projectors of such enterprises before their supplies of machinery have been purchased, is of great value. Manufacturers will find it to their interest to read this department carefully each week.

ALABAMA.

J. C. Neely & Co., Parkersburg, W. Va., have received the contract to grade 21 miles of the Sheffield & Birmingham Railroad, previously reported. Wilson & Devaney, Russellville, Ala., have received the contract to grade part of the above road. The contract for the bridges and trestles for the first 26 miles of the road has been received by Russell & Stair. Wilson & Co. have the contract to build 4 miles of the road.

The Mobile Cotton Press & Warehouse Co., C. E. Thames, secretary and treasurer, are erecting a 90 inch compress at the corner of Adams and Water streets, Mobile, Ala.

Josiah Morris will erect a large building at Birmingham, Ala. It is to have elevators and to be heated with steam, and will be not less than five stories high.

Hughes & Gilmore, of Calhoun county, Ala., have been in Asheville, Ala., prospecting for a location for a saw mill.

D. E. Cason is proprietor of the tannery previously reported as being erected at Asheville, Ala.

The Mobile & West Alabama Railroad, reported last week, will build their machine shops near Mobile, Ala. It is stated that the buildings are to be erected at once. W. M. Patton is chief engineer.

It is stated the plant of the Birmingham Iron Works Co. will be moved to another location in Birmingham, Ala., and will be considerably enlarged.

The Montgomery Iron Works, Montgomery, Ala., have been reorganized, with J. W. Dimmick as president, and P. B. Bibb, secretary and treasurer. The company will greatly enlarge their works at once.

Richard Church, Churchville, N. Y., previously reported as intending to establish a machine shop in Birmingham, Ala., has purchased a site at that city and will move his tool works there.

The Alabama Iron Works have been chartered at Birmingham, Ala., to manufacture the Van Pelt Force Pump, and do a general iron business.

The capital stock of the Southern Foundry & Manufacturing Co., Birmingham, Ala., is \$5,000 and not \$50,000, as reported last week.

A company is being organized to erect a brewery and ice factory at Montgomery, Ala. The capital stock will probably be \$50,000.

It is reported that the Montgomery & Eufula Railroad will probably be extended to Birmingham, Ala.

It is stated that A. M. McGregor will establish a plow factory at Mobile, Ala.

It is rumored that the Coalburg Coal & Coke Co., Birmingham, Ala., will erect an iron furnace, also that a furnace will be erected at the iron ore banks of Smith & Eastman, near Birmingham.

W. R. Hill, Birmingham, Ala., expects to put sash, door and blind machinery in his planing mill soon.

McLaren Bros., Shorter's Depot, Ala., will erect a saw mill.

Enoch Ensley, Thomas D. Radcliff, Rufus H. Haygood, Thomas S. Smith and William A. Walker, Jr., have incorporated, at Birmingham, Ala., the Birmingham & New Pittsburgh Railway Co., capital stock \$100,000, to build a street railroad.

H. M. Caldwell, Birmingham, Ala., will receive bids until September 8 for the masonry and carpenter work on the new church to be erected by the Presbyterians.

The Alabama & Tennessee Railroad Co. has been incorporated in Alabama by W. B. Wood, W. C. Sherrod, N. C. Jones, H. W. Semple, John H. Young and others.

The East Lake Land Co. have laid out a new town five miles from Birmingham, Ala., and will build a street railroad from there to Birmingham.

C. L. Jeffords, Jamestown, N. Y., is investigating the advantages of Birmingham, Ala., and Nashville and Chattanooga, Tenn., as a location for his edge tool factory, which he contemplates moving South.

T. G. Hadaway, Athens, Ga., will start a harness and saddle factory at Montgomery, Ala.

Mr. Boddie, Birmingham, Ala., will erect a \$35,000 building.

ARKANSAS.

A steam laundry is to be erected at Pine Bluff, Ark. C. H. Wilder will be manager.

A. M. Beam, Crystal Springs, Ark., previously reported as erecting a saw mill and a stamp mill, is negotiating for shingle machinery.

The Little Rock, Fort Smith & Texas Railroad, capital stock \$5,000,000, has been incorporated in Arkansas.

The Memphis, Arkansas & Kansas Railroad Co., capital stock \$10,000,000, has been chartered in Arkansas, by C. S. Brice, Samuel Thomas and others. The road will be an extension of the East Tennessee, Virginia & Georgia Railroad Co.'s lines.

FLORIDA.

A saw mill has been erected at Cedar Key, Fla., by F. A. Wolfe & Co.

The St. Augustine Improvement Co., St. Augustine, Fla., will erect a large three-story building.

A. P. K. Saffold, Walton Whitehurst, S. E. Hope, Phillip Collins, John B. Walton and William C. Brown have formed a company in Florida, to build a railroad from Tampa to Tarpon Springs, with an extension to Pinellas and Brooksville.

Bids for building the extension of the Florida Railway & Navigation Co.'s road from the Little Withlacoochee river to Plant City, will be received until September 1, by J. W. Bushnell, chief engineer, Fernandina, Fla.

Thomas G. Eaton, previously reported to erect gas works at Sanford, Fla., has, it is stated, purchased all the necessary machinery.

The Beresford Mill Co. will establish a saw and shingle mill at Beresford, Fla.

A saw mill is being erected near Kissimmee, Fla., by W. H. Curry.

Mr. Powers, Brooklyn, N. Y., has made a proposition to build water works at De Land, Fla.

GEORGIA.

A stock company has been formed at Butler, Ga., to manufacture whiffletrees. They have erected \$3,000 worth of new machinery, and will soon begin manufacturing.

The Nachoochee Placer Gold Mines Co., capital £200,000, is reported as organized in England to acquire and develop mining property in White county, Ga.

The Indian Spring & Flovilla Railroad Co. has been organized at Flovilla, Ga., to build a narrow gauge railroad from Flovilla to the Indian Spring, 2¼ miles. W. F. Smith is president and M. A. Lindsey secretary and treasurer.

The Madison & Eatonton Railroad has been chartered in Georgia.

The Augusta Electric Co., Augusta, Ga., has been reorganized, with George R. Lombard as president; John M. Graham, secretary, and Charles E. Coffin, treasurer. The capital stock has been increased and new machinery will be added to enlarge the works.

C. Downing, Jr. & Co., Brunswick, Ga., are rebuilding their barrel factory.

A stock company is being organized at Brunswick, Ga., to erect a grist mill.

A wood-working factory is being erected at Brunswick, Ga., by Wm. H. Anderson.

There is talk of water and gas works being erected at Milledgeville, Ga.

The contract to build the Union Point & White Plains Railroad, reported last week as incorporated in Georgia, has been let to Twiggs & Buckhalter, of Augusta. Harry Hill is president of the railroad, and A. B. Tappan, secretary and treasurer.

Jesse Thompson & Co., Augusta, Ga., are extending their lumber railroad three miles.

Grant Wilkins, Atlanta, Ga., has received the contract to build an iron bridge 115 feet long across Indian creek.

Bids will be received until September 7 for building a wooden bridge, 300 feet long, across Euharlee creek, in Bartow county, Ga., by the commissioners, B. T. Leake and others, Cartersville, Ga.

KENTUCKY.

The Hawesville Roller Mill Co., capital stock \$5,000, has been incorporated at Hawesville, Ky.

A. Rosenfield & Co. will rebuild their distillery at Owensboro, Ky., reported last week as burned.

The Kentucky and Indiana Bridge Co. have bought 50 acres of land at Louisville, Ky., to be used as a storage yard for railroad cars. Large sheds will be erected and about 40 miles of track will be laid in the yard.

Linneman & Moore, Covington, Ky., will build an \$8,000 brick stable.

W. N. Haldeman, Horace Scott, P. B. Reed, John Colter, J. W. Lyons and others have incorporated at Louisville, Ky., the American Lithograph Stone Co., capital stock \$750,000, to quarry lithograph stone, operate coal mines, develop natural gas and oil lands, &c.

The Kentucky and Cincinnati Natural Gas Fuel Co. has been incorporated at Covington, Ky., to develop natural gas and oil lands in Kentucky and West Virginia.

A company, with a capital stock of \$15,000, has been formed at Winchester, Ky., to manufacture wagons and repair farming implements.

Mr. Riley is opening a new quarry near Vanceburg, Ky.

R. L. Gillespie contemplates establishing a grist mill at Tollesboro, Ky.

It is rumored that an oil refinery is to be erected at Burksville, Ky.

LOUISIANA.

The name of the company reported last week as formed in Louisiana to build a road from Poydras to New Orleans, with John R. Elder as president, is the New Orleans & Gulf Railroad Co.

Leon Godchaux has purchased a three-roller sugar mill, which he will erect on his plantation in St. John Parish, La.

The name of the company recently reported as formed at New Orleans, La., to manufacture vinegar, by Carl Lang, H. F. D. Wedemeyer and August Leo, is the Southern Vinegar Co. They have built a factory with a daily capacity of about 50 bbls. Carl Lang is president.

The American Fatty Products Manufacturing Co., lately reported as incorporated at New Orleans, La., with R. M. Ong as president, to manufacture fertilizers, soap, candles, etc., have purchased part of their machinery for their works, and will shortly contract for the remainder.

A draining machine will be erected on Orleans street, New Orleans, La., at a cost of \$7,500. The Ivens & Son Machinery Co. will furnish the pump and Cochrane & Mims the large engine.

The Edison Electric Illuminating Co., capital stock \$150,000, has been incorporated at New Orleans, La., by Thomas Alva Edison, George B. Lawrason, Samuel Logan, E. L. Lewis, Charles Carroll and others, with Charles Carroll as president. This company will erect the plant at the custom-house, previously reported to be erected by the Edison Electric Light Co.

MARYLAND.

William Ludlow, Washington, D. C., will receive proposals until September 1 for furnishing 25,800 feet of terra cotta pipe.

W. H. Hoffman & Son, Hoffmanville, Md., are repairing their paper mill and putting in new machinery.

The Protestant Episcopalians will erect a \$6,000 stone church at Hampden, near Baltimore. Robert S. Beatley, Baltimore, is the architect.

B. F. Bennett has the contract to build a stone church, corner of Guilford avenue and Lanvale street, Baltimore, and has commenced work.

The contract to furnish iron or steel floor beams for the new pension building at Washington, D. C., has been received by E. N. Gray & Co., of that city at \$13,122.25.

MISSISSIPPI.

The Lee Oil Works, Natchez, Miss., have been reorganized and incorporated as the Carpenter-Dicks Co., with J. N. Carpenter as president; John A. Dicks, vice-president and F. S. Shaw, secretary and treasury.

It is reported that Samuel R. Bullock & Co., of New York, will build water works at Natchez, Miss., at once, if certain propositions are accepted.

The Transcontinental Bridge, Railway & Telegraph Co. has been organized at Natchez, Miss., with W. F. Martin as president; W. D. Crane, vice-president and general manager; J. Surget, secretary, and J. Surget Shields, of Vidalia, La., treasurer. The object of the company is to build a bridge across the Mississippi river at Natchez.

Wachenheim & Herman are putting new and improved machinery in their steam laundry at Vicksburg, Miss.

The Vicksburg Water Works Co., Vicksburg, Miss., reported last January as incorporated, have organized with T. M. Smead as president; S. P. Metzger, vice-president; M. G. Paxton, secretary, and E. S. Butts, treasurer. The capital stock is \$150,000.

NORTH CAROLINA.

Elliott & Marsh, Charlotte, N. C., will again enlarge their furniture factory.

LOCKWOOD, GREENE & CO.

MILL ENGINEERS

Office, 65 Westminster St., Providence, R. I.,
Carefully prepared plans, specifications and estimates furnished for the construction, equipment and organization of new mills and the revision and improvement of old.

Ellington, Royster & Co. have received the contract to erect a large three-story building at Fayetteville, N. C., for W. G. Upchurch.

W. H. Snow, High Point, N. C., is prospecting for a location for a large factory to manufacture the inside fixtures for tobacco barns.

A stock company has been formed at Concord, N. C., to erect a seminary building.

J. W. Gentry and H. Alvin Hayworth have bought a saw mill at High Point, N. C., and are removing it to Walnut Cove.

A. Armstrong & Co., Tryon City, N. C., are overhauling the machinery in the machine shop of W. D. Fowler, Spartanburg, S. C., and will use it as a furniture factory.

J. B. Killebrew and H. B. Kniffke, of Nashville, Tenn., and J. A. Irvine, Columbia, Tenn., will test a deposit of talc near Syla, N. C., and, if found in sufficient quantities, extensive mining will be commenced. Their address is Syla.

SOUTH CAROLINA.

John Lutjen has contracted for the erection of a \$15,000 building at Charleston, S. C.

New machinery is being put in the Camperdown Mills, Greenville, S. C.

TENNESSEE.

The Darwin Coal Co. has, it is reported, been organized at Darwin Station, Tenn., and will soon commence mining coal.

The Chattanooga Iron Fence & Screw Co. contemplate moving their factory from near Chattanooga, Tenn., to that city, and adding new machinery to vary their output.

Nashville, Tenn., has appropriated \$10,000 to build a bridge.

The Powell's Valley Railroad has recently been incorporated in Tennessee to build a road from Knoxville to Cumberland Gap. A. A. Arthur, Knoxville, is reported as being interested, and can give particulars.

The Jellico & Cumberland Gap Coal, Iron and Railroad Co., capital stock \$500,000, has been incorporated in Tennessee, to operate coal and iron mines, by A. A. Arthur, of Knoxville, and others.

It is reported that the Tuckaleechee Timber & Boom Co., capital stock \$50,000, has been incorporated to carry on business in Blount county, Tenn. A. A. Arthur, Knoxville, is interested, and give information.

It is reported that R. Jones will erect a mortar mill on Reservoir street, Knoxville, Tenn.

The Dayton Coal & Iron Co., Dayton, Tenn., have opened a new coal mine about $\frac{1}{2}$ mile from their works.

The works of the Pulaski Gas Co., Pulaski, Tenn., reported in this issue as burned, will be rebuilt at once.

J. C. Kinzel has erected a cement factory at Knoxville, Tenn. The capital invested is about \$10,000.

The Schuyler Electric Light Co., Knoxville, Tenn., have received the contract to light the entire city.

H. M. Hoxie, George J. Gould, D. S. H. Smith, John B. Robinson, R. J. Morgan and others have incorporated at Memphis, Tenn., the Iron Mountain Railroad Co., to build a railroad around that city.

O. H. Pennock, Chattanooga, Tenn., previously reported as leasing oil lands, has leased about 36,000 acres in Kentucky and Tennessee, and will lease about 11,000 acres more.

The Columbia Pump Co., Columbia, Tenn., will put some new machinery in their factory.

It is reported that the Walden's Ridge Railroad has been bought by Eastern capitalists, who will extend it from Emory Gap to Knoxville, Tenn.

There is talk of water works being established at Murfreesboro, Tenn.

John P. Rowntree will erect a large warehouse at Knoxville, Tenn.

A saw mill has been erected at Sweetwater, Tenn., by A. J. Stradley.

The Robbins Coal & Mining Co., capital stock \$10,000, has been recently incorporated at Robbins, Tenn., and are now opening coal mines.

TEXAS.

G. W. Howell talks of erecting a flouring and grist mill at Dallas, Texas, the first of next year.

The Phoenix Cigar Co., capital stock \$100,000, has been incorporated at Austin, Texas, with William H. Stacy as president; R. J. Brackenridge, vice-president; and Charles F. Hicks secretary. The company succeed Stacy & Hicks, tobacco manufacturers.

The El Paso Gas Light & Heat Co., capital stock \$80,000, has been chartered at El Paso, Texas, by William S. Hills, J. P. Hogue and W. A. Irwin.

The contract to erect a United States court-house and post-office at Waco, Texas, has been received by a Baltimore (Md.) firm.

C. F. Daugherty, representing the Edison Electric Light Co., is in Greenville, Texas, negotiating for the erection of a plant. It is probable that a stock company will be formed to establish the plant.

Paris, Texas, proposes to spend \$15,000 in constructing a sewerage system. Work, it is said, will be commenced at once.

Elliott & Stone have purchased a site at Paris, Texas, for a 30-ton ice factory, which they will erect.

VIRGINIA.

Parkins, Jordan & Parkins will erect a creamery at Staunton, Va.

The Old Dominion Iron & Nail Works Co., Richmond, Va., previously reported as to erect a Bessemer steel plant, have contracted with Gordon, Strobel & Lauman, of Philadelphia, for the construction of a complete plant with a capacity of 200 tons per day. The main building will be 60x130 feet. Work is to be begun at once.

It is reported that a coach factory is being erected at Petersburg, Va., by Lewis Bros.

C. H. Caykendall has received the contract to build the depot at Petersburg, Va., previously reported to be erected by the Norfolk & Western Railroad Co.

Bids will be received at the United States Engineer Office, Norfolk, Va., until September 20 for building a steam boiler, to be delivered at Petersburg.

Berry & Lillard, Motley's Depot, Va., whose saw mill is reported in this issue as wrecked by an explosion, are rebuilding.

It is stated that work will be commenced September 1 on the new city hall at Richmond, Va., previously reported.

The American Animal Tether Co. has been incorporated at Richmond, Va., to manufacture, buy and sell animal tethers, with Fitzhugh Lee as president, and H. B. Owen, of Manchester, Va., secretary, treasurer and general manager. The capital stock is to be not less than \$12,000 nor more than \$24,000.

A large amount of new machinery is being put in the machine shops of the navy yard at Portsmouth, Va.

Strickler Bros., Dayton, Va., have purchased the furniture factory of F. P. Humphries, Bridgewater, Va., and will put it in operation.

The Southwest Virginia Improvement Co., Pocahontas, Va., are building a reservoir. They will open a new mine on the Nelson property near Pocahontas.

E. A. Johnson is preparing to open a stone quarry at Lexington, Va.

WEST VIRGINIA.

Reed & Flynn will erect a large three-story building at Charleston, W. Va.

The Natural Gas Illuminating Co., capital stock \$50,000, has been organized at Wheeling, W. Va., to furnish natural gas for illuminating purposes. R. C. Elliott is president; F. H. Given, vice-president; L. H. Williams secretary, and Chas. B. McLean, treasurer.

The Mt. Carbon Coal Co., Mt. Carbon, W. Va., previously reported as having commenced work on their coke ovens, are building 100 ovens in all.

The J. L. Rumbarger Lumber Co., Dobbin, W. Va., are erecting a band saw mill at Davis.

BURNED.

It is reported that the mills of Messrs. Yarrell, Grigg, Mason, Prince & Applewhite, in Southampton county, Va., have been destroyed by a flood.

The flouring mill of W. J. Mathes, Kenton, Tenn.; loss \$7,000.

The saw mill of Berry & Lillard, Motley's Depot, Va., wrecked by an explosion. It is being rebuilt.

The works of the Pulaski Gas Co., Pulaski, Tenn.; loss \$2,000. Will be rebuilt at once.

The saw mill of J. P. Whilden, near Anthony, Fla.

The ice factory of the Sanford Ice & Cold Storage Co., Sanford, Fla.; loss \$8,000.

The saw mill of E. B. Cantey, Camden, S. C.

The gin of Ashcraft & Co., Ashland, Ala.

J. A. Baker & Sons' gin in Paulding county, Ga.

Mrs. Hook's ice factory at Paris, Texas; loss \$15,000.

The gin of B. G. White, Portland, Ark.

New Machinery.

COLUMBUS, GA., August 20, 1886.

Editor Manufacturers' Record:

I have ordered of W. A. Haines, Providence, R. I., a Corliss engine about 100 horse power, to replace the slide valve engine I am now using. I have also ordered of the Atherton Machine Co., Lowell, one 36-inch two beater compound opener, with leaf extractor; also one 36-inch three beater finisher. These machines to replace the machinery now in my picking room. I hope to have these machines in operation in 5 or 6 weeks.

COLUMBUS MANUFACTURING CO.
J. RHODES BROWN, President.

Building a Branch Railroad.

GREENSBORO, N. C., August 21, 1886.

Editor Manufacturers' Record:

Nothing definite has been determined as to the extension of the C. F. & V. V. Railway west of Mt. Airy, N. C. In addition to the work now in progress on the main line we are building a branch 10 miles long to the Deep River Cotton Mills, in Randolph county, which will be completed in about 3 months.

J. A. GRAY, President.

Will Erect Saw and Shingle Mill.

DE LAND, FLA., August 21, 1886.

Editor Manufacturers' Record:

We shall establish at Beresford, three miles from here, on the J. T. & K. W. R. R. a cypress shingle mill, with one Lane and one Trevor saw, Lane log jack drag saw and cut off. Shall also run in connection a board saw, planer and orange box machinery. The style of the firm is Beresford Mill Co.

Building Large Tannery.

NEW YORK, August 23, 1886.

Editor Manufacturers' Record:

We are building a tannery at Davis, W. Va., but have not fully decided as to what amount of work we will do there; that will depend upon the cost of doing it, which will be demonstrated later. It is possible that we may employ 100 hands on the start, and during the summer many more will be employed; and the works may be increased if we find we are justified in doing so. The enlargement, if any, will entirely depend upon this.

FAVERWEATHER & LADEW.

Building Foundry and Plow Factory.

FAYETTEVILLE, N. C., August 18, 1886.

Editor Manufacturers' Record:

I am engaged in erecting a building for foundry and plow manufacturing purposes. I hope to be ready for work by the 1st of November, as my building here is only change of business, as I have been engaged in the business at Harpers, Johnston county.

THOMAS WARD.

Will Spend \$100,000 in Developing Mines.

MADISONVILLE, KY., August 21, 1886.

Editor Manufacturers' Record:

I have bought 1,400 acres of coal land and expect to spend about \$100,000 in fitting up my mines.

CONRAD REINECKE.

Building New Puddling Furnace.

ANNISTON, ALA., August 16, 1886.

Editor Manufacturers' Record:

We have in our forge two double puddling furnaces, two heating furnaces, four hammers, (two in operation.) Are building one new double puddling furnace and one heating furnace; when completed our capacity will be (40) forty axles per day on single turn.

NOBLE BROS. & Co.

A Vinegar Factory.

NEW ORLEANS, August 18, 1886.

Editor Manufacturers' Record:

We have erected a vinegar factory, with a capacity of 50 to 60 barrels a day, under the name of Southern Vinegar Co. Our factory takes in half a square, and is furnished with the latest improvement in the vinegar line.

SOUTHERN VINEGAR CO.

Will Double Capacity.

PINE BLUFF, ARK., August 17, 1886.

Editor Manufacturers' Record:

It is our intention to double the capacity here the coming winter, which will give us capacity for manufacturing 11 tons of ice daily.

R. HICKS.

Opening New Coal Mine.

DAYTON, TENN., August 20, 1886.

Editor Manufacturers' Record:

We are opening a new mine half mile from the works, called Nelson Mine, after the party who discovered the seam in this locality. It will be ready for operation in September, and the product will be used for making coke.

THE DAYTON COAL & IRON CO., Limited.

Will Enlarge Capacity.

CHARLOTTE, N. C., August 21, 1886.

Editor Manufacturers' Record:

We claim to be the liveliest concern in this city; have not stopped a day since we started, and we are now about to commence enlarging again, having done so once before since we commenced. We expect a good trade this fall.

ELLIOTT & MARSH.

[FOR OTHER LETTERS SEE PAGE 86.]

Improved Automatic Knife Grinder.

The Springfield Glue and Emery Wheel Co., Springfield, Mass., have recently introduced some improvements in their knife grinder, a cut of which is seen on this page.

A folding hood nearly surrounds the wheel, which prevents the water flying, and is adjustable to the wearing away of the wheel.

A centrifugal pump is attached to each machine, properly piped, with valve to regu-

Wanted—More People.

We have always believed if the Southern people would make their summer pilgrimages to the West instead of to the Northern States it would result in much more good to them. It would put us to thinking, and the mind would involuntarily make some comparisons that would benefit those of us who have run in the same groove so long. Georgia is one of the original thirteen States. Kansas was a part of the "great American

And yet we have seen the thermometer 106 degrees in the shade continuously for three days in Kansas City. We have been there in the winter when we longed for Arctic furs, for we needed them. The surface of the country in Kansas City originally had no surface. It is by nature hills and holes, mainly hills. Columbus will soon be connected directly by rail with this prodigy of growth, and from her we can learn some useful lessons.

This day and hour is full of possibilities for the South. We have an awakening knowledge of our own wonderful resources and power. The capital of the world is seeking the many opportunities offered here to increase itself. We should act in this matter by bringing to our midst the good people from other States and abroad to till our broad acres and add to our strength. The genial climate of this State, if it were but known to many who almost freeze in the Northwest, would attract thousands of the best citizens of the union. Our new railroads need a greater population to add to their local receipts; it behooves them to invite immigration here. More people means more Congressmen, greater dignity in the State and a better chance to enact such laws as will not discriminate against our own industries and avocations. A city's growth gives her that position which commands attention. Public buildings, free delivery, government patronage and new railroads and banks rarely come to either insignificant cities or those which are slow of growth. Benefits beget one another. Heaven helps those who help themselves. New-comers bring new ideas and new dollars. Brains and gold rule this sphere. It behooves a community to have them both. We invite settlers to come among us. Let us do more than that, and add to our rapidly increasing attractions until they are forced by self-interest to actually come and send for their neighbors and friends.—Columbus (Ga.) Enquirer-Sun.

Clayton's Pneumatic Pressure Relief Governor.

The design of this governor is to relieve an air compressor (worked by belt power or otherwise than by steam direct) from the power used in compressing the air when it

the pump or air compressor when the needed supply is attained, by opening wide the relief valve B to the atmosphere; at the same time no air or water can be discharged from the receiver, because of the check valve D, which is placed in the discharge pipe.

When the pressure in the air receiver is reduced from 2 to 4 pounds, then the weight N will close the relief valve B, and more air will be forced under pressure into the receiver to do its work.

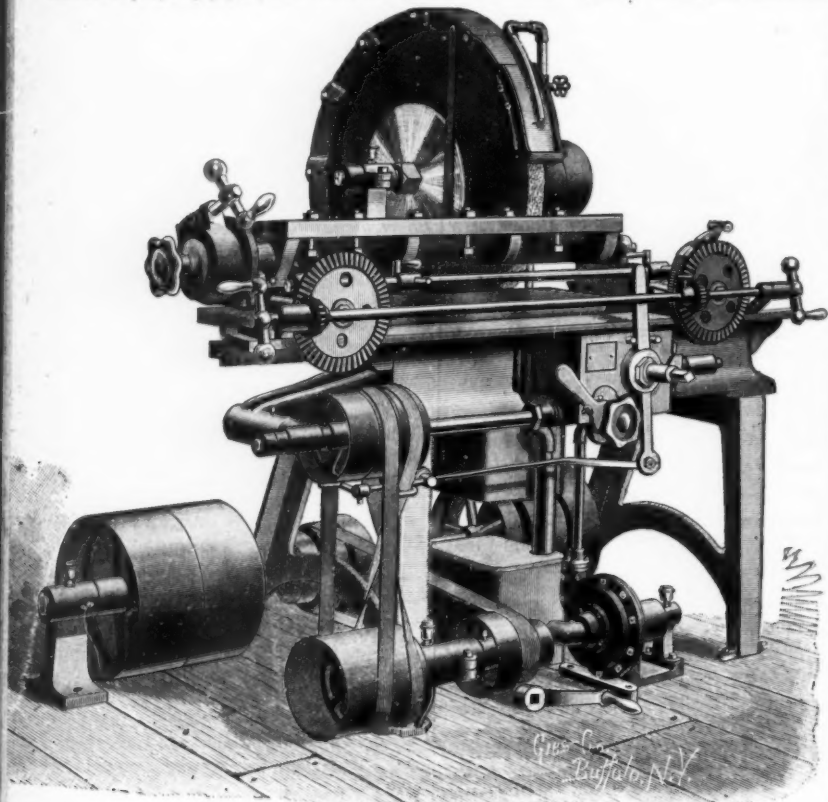
By this method compressed air as a motive power can be economized as perfectly as with a compressor worked by steam, and regulated by J. Clayton's Speed and Pressure Governor.

By the use of this governor many air compressors will be used, because they can be attached to steam engines or shafting, etc., which is now in operation, and because there is no useless waste of power.

Suggestive Signs.

Rumors are rife in railway circles, in connection with the rapid development of the Mississippi Valley Railway system, in various and, in some cases, antagonistic interests. It is said that there is good reason to believe that Mr. Jay Gould does not much like the extension of the Kansas City & Fort Scott line to Birmingham, and that he has determined to project a counter movement in the same direction. This may or may not be true, but it is suggestive that a number of prominent people, usually identified with the schemes of the railway king, have been looking carefully into the resources and traffic possibilities of the country between Memphis and Birmingham for some time past.

A million and a half dollars of English money have been put into the scheme to build the line between Birmingham and Sheffield, according to report, and it is believed and speculated upon that a huge syndicate has been organized in New York and Boston to establish steel works in connection with that enterprise and the Pratt Coal, Coke and Iron Company. The combined effect of these proposed adventures appears to be to set the American railway world wild for Southern extensions and alliances, and it is a safe prediction that the future



IMPROVED AUTOMATIC KNIFE GRINDER.

late the flow of water on the wheel. The water is taken from a tank located on the floor under the machine, out of the way, and after being used runs into a second tank just under the wheel, where the sediment settles and comparatively clean water overflows from the top of this tank into the tank and pump below, thus using the water over and over. The tank catching the sediment is easily taken out and emptied.

The pump furnishes a large supply of water, prevents heating and drawing the temper, and the grinding, it is said, can be done faster than when ground dry. Improved collars on the spindle of these machines are made to take wheels with holes in them half the diameter of the wheel, and future wheels for the machines will cost less as a consequence, and the loose collar is so arranged that the wheel can be balanced at any time.

The machine is strong, well proportioned, and thoroughly made, and working parts are well protected from emery and dust. The worn and worm gear are run in an oil dish to prevent wear. It has an automatic cross feed by which both ends of the knife are fed up equally at the same time.

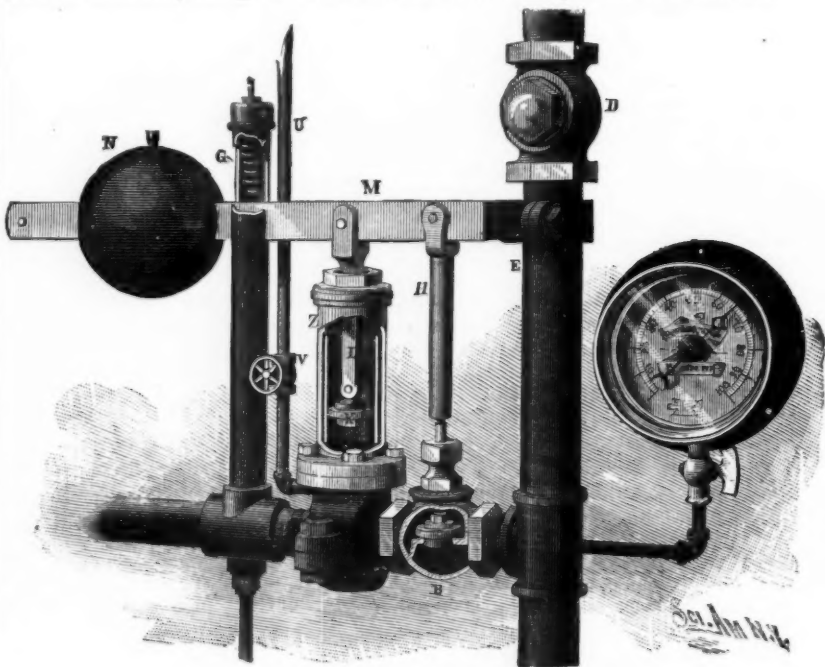
This machine can be made to run a cup-shaped wheel for grinding flat surfaces not too wide, and grinding knives on a long level without concaving them. Special attachments are furnished to do a large variety of work.

MANAGERS of mills, factories, furnaces, mines, etc., and parties starting manufacturing enterprises, and needing machinery or supplies of any kind, will find it profitable to consult the advertising columns of the MANUFACTURERS' RECORD. Its pages contain names of the best houses in the country among manufacturers of and dealers in machinery and mill supplies.

desert" when we were at school; yet to-day Kansas has 1,325 more miles of railroad than Georgia has. The people of Georgia waste enough in building fences each year to make us comfortable and easy; enough to capitalize a dozen good banks. The people of the West are not guilty of that folly. Although younger as a State by seventy years, Iowa has more population than Georgia. The percentage of increase in population during the last decade was 30 per cent. in this State; 267 per cent. in Nebraska. More people means more wealth. The assessed wealth of Iowa is one hundred and sixty millions more than that of our own State.

It has been the favorite hobby of many sensible Southern men to say they wanted no immigrants. "If it is a good country, let our children have it," they often said. The day for that has past, and if our section and State desires to maintain its position, political and physical, it must increase in population and wealth as does the other sections. The increase in the population of the United States during the decade ending 1880 was, from reproduction, 22.78 per cent. The actual immigration in this country in the six years ending July 1, 1886, was 3,350,000 people. If we use the percentage of the last decade for reproduction and the actual statistics for immigrants, it is clear we have now in this country sixty-one million souls, an increase of 10 3/4 millions since 1880, and what this army of consumers means to the industries of the country, the present good times clearly point out. Of this three and a half millions of immigrants the South has obtained very few. To give an idea of the phenomenal growth of a city catching this army of immigrants we cite that of Kansas City. A city whose age is that yet of a maiden, and whose topographical position is not inviting.

In 1855, population.....	700
In 1877, population.....	41,786
In 1885, population.....	128,476
In 1885 her wealth was.....	\$1,802,000
In 1885 her wealth was.....	\$39,000,000



CLAYTON'S PNEUMATIC PRESSURE RELIEF GOVERNOR.

otherwise would compress more air than is wanted for doing the work at certain times when less air is wanted than the compressor gives, thereby saving the power now expended in compressing the surplus air, which, in many cases, amounts from 50 to 75 per cent. of the capacity of the compressor, and at intervals no air is used at all.

This governor will regulate any compressor or pump for gas or liquids, and relieve

causes of war between trunk lines will be the Mississippi Valley rather than the Western trade. The Pennsylvania Company is credited with a determination to get down our way on an independent basis, and pretty nearly every first-class railway interest seems bent upon reaching the sunny waters of the Gulf by hook or by crook. All this, of course, is natural enough. There is nothing plainer to the minds of

railway strategists than that the Mississippi Valley, both on account of its own wonderful development and its natural position in relation to the coming South and North trade of the hemisphere, and the future American trade with the Pacific via the Isthmus of Tehuantepec, must necessarily become the richest field for traffic operations in the world. Present and projected movements merely discount the coming situation, while it must be apparent that they strongly tend to accelerate its advent. As "all roads lead to Rome," so all these material works and adventures of progress are destined to point to and pay tribute to the metropolis of the South. No one can study the grand development of the South,

MINING NOTES.

By T. K. BRUNER, Salisbury, N. C.

NORTH CAROLINA GEMS.

Recent finds at the Emerald and Hiddenite Mines, in Alexander county, will be of unusual interest to men of science, and will prove of great pecuniary value to the owners of the mine. These finds are of such nature as to make Carolinians proud, and not only so, but must stir pride in the whole of the United States, to know that gems of such size and value are to be found within our borders. This far excels finds of like gem

Carolina's resources. The whole "find" of emeralds weighed twenty and one-half ounces, and it is very safe to say that no such discovery has ever been made before in the whole of North America. The money value of the lot, when cut into gems, will be way up in the thousands.

Prof. W. E. Hidden, who has gone to New York for a short rest, (work at the mine being suspended in his absence,) stopped in Salisbury a few hours on his way and displayed these gem stones to the writer. He says that accompanying the gem minerals were numerous quartz, rutile and mica crystals of considerable interest and beauty. Several large water-crystals were found, and many that were filled with crossed and meshed "needles" of some unrecognized white mineral. One mass had an acicular crystal of this unknown white mineral enclosed, which was six and a half inches long and as slender as a thread. Many of the quartz crystals were

TERMINATED COMPLETELY

at both ends, and showed no place of attachment to the walls of "pocket" in which they were found.

The discovery mentioned last July, though it yielded, among other things, a very handsome emerald, probably the best found in the State up to that date, is not to be mentioned the same day with these herein reported.

Prof. Hidden will return in September and resume operations in Alexander county. His progress and discoveries will be watched with interest.

REYNOLDS MINE.

The Reynolds Mine, near Troy, in Montgomery county, is being systematically worked. Messrs. Wade & Co., proprietors, who live at Troy, have built a mill, which was started last week. The ore is free milling, and the prospects of the mine so far are very encouraging.

Post Hole Auger.

The Peters & Ledlie Manufacturing Co., St. Louis, Mo., make a very efficient post hole auger, a representation of which is shown in the accompanying cut. There are many devices intended for this purpose, but it is claimed by the manufacturers that this is the only one in existence that will successfully accomplish the end for which it is designed. The cutting knives are made of steel, and so arranged that should any one or all of them become dull from use, they can be removed by simply loosening one nut, sharpened on any grindstone and replaced. In wet ground one of the knives can be removed to facilitate the dumping. It will work in ground wet or dry, and in any kind of soil, sand, gravel, loam or clay. It is strong, durable and easily kept in good working order. It is claimed that with it one man can, without applying any downward pressure whatever, bore 200 holes per day each 3 feet deep.

The auger is made in 2 sizes; No. 1 bores holes from 6 to 8 inches in diameter, and No. 2 from 8 to 11 inches.

Dealers Liable.

Suit pending against manufacturers of imitation "Eureka" Packing.

The manufacturers of "Eureka" flat gum core packing, through their New York agents, have commenced suit against manufacturers of an imitation article, and warn dealers that they are just as liable as the manufacturers for any sales of the imitation. The following notice has been served on many of the dealers:

PHILADELPHIA, June 15, 1886.

NOTICE.—Examine your invoices. A liberal reward will be given for information that will lead to the detection and conviction of persons who are selling an imitation and inferior quality of packing, and invoicing the same Eureka Packing. The genuine Eureka is labeled, every 10 or 12 feet, with a red label containing the name "Eureka," date of patent and register number, and the gum core is always rectangular in shape. See that you purchase this packing from our authorized agents.

Yours truly,
JAMES SMITH & CO.

The Care of Steam Boilers.

BY D. A. TOMPKINS.

Very many manufacturers of cotton in the South commenced operations with water power, and have had to add steam on account of the growth of their enterprises beyond their original expectations. Mills operated exclusively by steam power were not numerous until within recent years, and while the South may be said to have accumulated a good deal of experience in the matter of cotton mill machinery, the question of boilers and the proper care of them is one upon which the average mill man's mind is too much at sea. It too frequently happens that the management leaves the control of the boilers to a fireman or a so-called engineer, without in any way being assured that they are either competent, or that they will be duly diligent, even if they have the proper information and experience. Put a man to firing a set of boilers who has never before been accustomed to work about boilers, and for two months he will be exceedingly careful. He watches his water, and if by chance it gets to the bottom gauge, out comes the fire. He performs each duty named to him to excess, and to an annoying excess oftentimes. As time wears on he risks more and more, until often it is a habit with a fireman who has become well used to his job, to wake out of a doze, find no water even in the bottom gauge, and without saying a word or considering the danger, he will put his feeding apparatus to work. The fireman argues that even if he was asleep (which he never quite admits, even to himself), there was water plenty when he went to sleep. He looks at his



POST HOLE AUGER.

fires and judges by their appearance whether he may have slept long. If the fires look fair, the time elapsed couldn't have been long, and the water couldn't be much below the bottom gauge, and on goes the water. It soon becomes the case of the fox and the lion, and timidity passes away in proportion to the length of time spent about boilers. Even careful hands seem to become reckless about risks, and many a fireman has gone home Saturday night and left his boilers to them, knowing full well that there might be mud or lime, or something else to make another week's run unsafe.



NEW BECKER WASHING MACHINE.

and of the Mississippi Valley especially, without seeing signs of great prosperity, trade and influence for the New Orleans of the future.—Times-Democrat.

The New Becker Washing Machine.

This machine, manufactured by N. C. Baughman, York, Pa., has some points of excellence not found in others.

The box containing the clothes and water is perfectly tight, and there need be no slopping while the washing is going on. It has a simple rubbing motion, similar to that of the hand, so that the clothes are not pounded or beaten out of shape, nor torn, and buttons are not broken nor torn off. The motion is so easy that a child can operate a machine. As the heat and steam are confined under tight cover the clothes are easily bleached. Mr. Baughman is also manufacturer of the "Common Sense" Wringer, which is adapted for use on the Becker Machine, and is one of the most popular wringers on the market.

The manufacturer will furnish any further information desired.

Mr. J. H. BARTLETT, of Montreal, in a pamphlet on the subject, shows that while fifty years ago the iron interest was the most important manufacture in Canada, it is now in a deplorable condition, notwithstanding natural advantages second to no other country. This he lays to the non-protective character of their tariff. They cannot purchase their iron for less, he says, "than it costs in the United States, where the policy opposite to our own, and surely the more enlightened one, prevails." We commend Mr. Bartlett's views to those in this country who undertake to prove that free trade ought to prevail. Let them imagine the condition of manufactures in this country with that of iron left out.

If you are not already a subscriber to the BALTIMORE MANUFACTURERS' RECORD, send us \$3 and you will receive it regularly for one year, or six months for \$1.50.

stones yet recorded in the whole of this country.

On the first Monday of this month (2d) they found the very

KING OF HIDDENITES

in a ditch, dug for prospecting purposes, just a few rods southwest of the shaft. This king of Hiddenites is a perfectly transparent crystal, two and five-eighths of an inch long, and is half an inch thick at its widest, and one-fourth of an inch at its thinnest diameter. It is entirely suitable for gems, but the last half inch of it (the terminal end) is of superb emerald color, and much superior to the rest of the crystal; the color of the balance being more of a chrysolite than an emerald tint. Had the crystal been all of the same tint as the terminal end, its value would have been considerable above a thousand dollars. Along with it were found nine ounces of crystal of lesser size, but of rich color and very fine for gems.

On the second Monday (9th) they were very fortunate in locating a new emerald vein, which is situated nearer to the shaft than the Hiddenite "pocket" above described. In working down the vein "pinched" at about 20 feet from the surface, but not without yielding about this point a few of the most notable emeralds ever found in the United States. Among them is the

VERITABLE KING OF EMERALDS

and seven of his court, all healthy and wealthy subjects, as may well be imagined.

Consider the dimensions of the king. His length is three inches; his weight eight and three-fourth ounces; his thickness one and three-fourth inches, and his color that beautiful shade of green that wheat presents in early spring—an ethereal green. One may well ask, can such things come out of North Carolina? Can the United States produce such a marvelous crystal?

Speaking with moderation and within bounds, this emerald crystal would be worth, if it was wholly fit for gems, the respectable sum of

TWENTY THOUSAND DOLLARS or more. Is there not therefore reasonable ground for a pardonable pride in North

Owners of steam power should always bear carefully in mind that there are a great many causes of a boiler explosion; also that the average man who is perfectly competent to fire boilers is entirely incompetent to be left in charge of them or be responsible for their good condition. The writer is often called upon to inspect and test boilers, and the number that are found to be in unsafe condition is really surprising, and in cases, too, where the engineer and fireman have reported everything all right, knowing that an inspection and test was going to be made.

In several cases the feed water pipe was nearly full of deposited scale. Sometimes the blow-off pipes are choked with trash or scale. Dangerous quantities of mud are often found in boilers, and the fireman will say he blew the boilers off regularly and thought that would clean them. In many cases thick deposits of scale are known to exist, but are considered no cause of uneasiness. Many pressure gauges are not even approximately accurate, and cases are not infrequent where the pressure gauges are entirely out of order and the safety valve stuck down. Generally, in such cases, the superintendent thought the engineer was looking after the boilers and seeing that they were kept all right. The engineer thought the fireman would report if anything was wrong, and the fireman didn't know he was expected to look after repairs.

Proper arrangements about the care of the boilers would vary, of course, with different mills. A thoroughly competent man would, in most cases, cost more money than a mill would feel able to afford to pay for an engineer. Several mills, however, have a good machinist capable and reliable to take care of the engine and boilers, and then by purchasing a lathe and drill press and putting them in the engine room, where the man's time could be utilized, doing various repair jobs, more than his extra wages could be saved, while, at the same time, getting the benefit of his care and experience in taking care of the engine and boilers.

Where this is not practicable, periodic inspections should be made by competent mechanical engineers or other experts.

The regulations upon the subject of inspections and tests by the various governments, specially referring to steamship and other boilers where the public is interested and concerned, and even in cases where specially well-qualified men are generally in charge, exemplifies that experience proves the need of constantly examining the manner in which engineers and firemen do their work.

Managers of manufacturing enterprises are usually themselves the most careful inspectors of all parts of the interests under their charge except the boilers, and these are left by them in the charge of a fireman, who would not be trusted with the responsibility of any other part of the mill. In the face of an undefined feeling that the fireman should be more carefully looked after, a manager frequently goes on leaving the matter alone with the sort of uneasiness of conscience that a spendthrift dreads to know, and delays counting up, how much he owes.

Every person in authority over interests where boilers are used should take hold of it and see to it that the boilers receive proper attention, either by direct supervision or by putting the matter into the hands of some competent and responsible person, and for the reasons that ill-cared-for boilers are very unsafe and short-lived, and well-cared-for boilers are safe and long-lived.

PINE BLUFF, ARK., August 18, 1886.

Editor Manufacturers' Record:

We are building a cotton warehouse of brick and iron, 80x120 feet. Contract let and foundations laid. J. B. SPEERS & CO.

J. N. TORRENCE, Gaffney City, S. C., wants to buy a second-hand Leffel Water Wheel for cash.

Will Build Acid Works.

NEW ORLEANS, LA., Aug. 19, 1886.

Editor Manufacturers' Record:

This company has organized with a capital of \$100,000, a large portion of which is now taken up. It has contracted for nearly all of its machinery and will shortly contract for the remainder.

It is the company's intention to be in operation sometime during December. The processes to be used by the company, as well as a majority of the tools and instruments, are the exclusive property of this company. By these processes articles of a superior quality will be obtained and the yield of solid stearic acids considerably increased. The company intends using mainly cotton-seed oil refuse, but will work all other available fats. The daily capacity of the works will approximate 30,000 lbs. of fat.

It is not the present intention of the management to manufacture soap and candles, but merely stearic and olive acids, and also glycerine of fine quality, and sell these products on the open market.

AMERICAN FATTY PRODUCTS MFG. CO.,
A. C. LANDRY, Sec'y.

New Machinery.

CHATTANOOGA, TENN., August 18, 1886.

Editor Manufacturers' Record:

We have recently added 4 gangs of saws and other machinery to our mill, but do not contemplate further improvements for the present.

DALY, SMITH & HILL.

Will Develop Limestone Quarry.

JACKSONVILLE, FLA., August 18, 1886.

Editor Manufacturers' Record:

The company is not yet fully formed. We have, however, discovered a very valuable bed of limestone, similar to the Joliet, Ill., limestone, in unlimited quantities. We have secured the land and are making arrangements to develop it.

J. FRAS. LEBARON.

Erecting Planing Mill.

FOREST CITY, N. C., August 19, 1886.

Editor Manufacturers' Record:

We expect to have our machinery up and running soon as possible. Forest City is on a boom. A railroad will soon be here if nothing happens.

JOHN BELL HARROLL & CO.

CHATTANOOGA, TENN., August 23, 1886.

Editor Manufacturers' Record:

We contemplate moving our factory to town, which will, of course, necessitate building a new factory; whether of the old material is not yet determined. We contemplate adding some new machinery to vary our output.

CHATTA. IRON FENCE AND SCREW CO.

FLOVILLA, GA., August 21, 1886.

Editor Manufacturers' Record:

The Indian Spring & Flovilla R. R. Co. was organized last Monday for the purpose of building a narrow gauge road from the depot on E. T., Va. & Ga. R. R. to the spring, 2 1/4 miles. W. F. Smith was elected president, and M. A. Lindsey, secretary and treasurer.

W. F. SMITH.

Prices of Brick Machinery Wanted.

RUTHERFORDTON, N. C., Aug. 22, 1886.

Editor Manufacturers' Record:

J. W. Tucker and myself are engaged in the manufacture of brick on a small scale. Want to increase our capacity if we find that there is a demand to justify. Would like to get circulars and prices of brick machinery, etc., for limited business.

R. W. LOGAN.

MOTLEY'S DEPOT, VA., August 24, 1886.

Editor Manufacturers' Record:

We have bought new machinery and expect to get our saw mill in motion by the last of this week.

BERRY & LILLARD.

Building 100 Coke Ovens.

POWELLS, W. VA., August 18, 1886.

Editor Manufacturers' Record:

We have one hundred bee-hive ovens in course of construction, and contemplate increasing this plant as soon as the market will justify it.

THE MT. CARBON CO., Limited.
WM. W. PAGE, General Manager.

Saw and Planing Mill.

PEMBERTON FERRY, FLA., Aug. 20, 1886.

Editor Manufacturers' Record:

We have erected here a new saw and planing mill, and can now supply lumber of the following kinds: Pine, cypress, cedar, hickory, red bay and all the varieties of gum.

W. EDGAR & SON.

OWENSBORO, KY., August 18, 1886.

Editor Manufacturers' Record:

We have not put in any new machinery, except the new process for making meal, granular system. We have built the most complete elevator in this section, at a cost of \$5,000. Our business is good; prices rule a little lower, with a prospect of a small advance.

J. A. TERRILL.

MEMPHIS, TENN., August 16, 1886.

Editor Manufacturers' Record:

I and others have chartered the National Cotton-Seed Oil & Huller Co., but our place of operations has not yet been decided on. We shall build or purchase as circumstances may require.

J. W. O'BRIEN.

TERRILL, TEX., August 13, 1886.

Editor Manufacturers' Record:

We have just finished making our flour mill a full roller; capacity 125 barrels per day. Have it about completed, and all latest improvements.

LLYOD & BIVINS.

Two Iron Manufacturing Companies.

BIRMINGHAM, ALA., August 20, 1886.

Editor Manufacturers' Record:

We have incorporated the Southern Foundry and Manufacturing Co., with a capital stock of \$5,000, for manufacturing hollow ware, grate fronts, sash weights, switches, frogs and all kinds of cast and wrought iron work. President, Wm. Veitch; secretary and treasurer, W. W. Barclay. There was also incorporated the Alabama Iron Works, for a general iron business and the manufacture of the Van Pelt Double Acting Force Pump.

W. W. BARCLAY.

Will Build Bessemer Steel Plant.

RICHMOND, VA., August 21, 1886.

Editor Manufacturers' Record:

We have decided to erect and contracted with Gordon, Strobel & Lauman, of Philadelphia, for a Bessemer steel plant and two 3-ton converters.

OLD DOMINION IRON & NAIL WORKS CO.

Will Rebuild Distillery.

OWENSBORO, KY., August 20, 1886.

Editor Manufacturers' Record:

We will rebuild our Rock Spring distillery.

A. ROSENFELD & CO.

BIRMINGHAM, ALA., Aug. 20, 1886.

Editor Manufacturers' Record:

The Birmingham Construction Co. was recently organized, with a capital of \$50,000. The object is to undertake work ordinarily incident to such a company, and to furnish materials therefor. The president is Jos. F. Johnston; secretary and treasurer, W. J. Cameron; general manager, I. V. Sage. Board of directors: Jos. F. Johnston, W. J. Cameron, Jno. W. Johnston and I. V. Sage.

JNO. W. JOHNSTON.

Added New Machinery.

WINCHESTER, KY., Aug. 16, 1886.

Editor Manufacturers' Record:

I have added one double set of 18-inch Allis Rolls, one centrifugal reel and other machinery, amounting to \$1,300, to my mill, making my capacity now 150 barrels of flour per day, and short of nothing in handling the product in the best and most economical way.

SMITH P. KERR.

HIGH POINT, N. C., August 21, 1886.

Editor Manufacturers' Record:

We will decide in about two weeks as to the point which we will locate. The business will be to manufacture the inside fixtures to the modern tobacco barn, and will be an extensive affair.

W. H. SNOW.

A Tannery.

ASHEVILLE, ALA., August 17, 1886.

Editor Manufacturers' Record:

The tannery I have just put in operation has a capacity of 15,000 to 18,000 pounds per annum.

D. E. CASON.

HOT SPRINGS, ARK., August 16, 1886.

Editor Manufacturers' Record:

I am organizing a merchants flouring mill at this place. We expect to put in machinery to turn out 50 barrels flour per day.

JOHN D. WARE.

DECATUR, GA., August 19, 1886.

Editor Manufacturers' Record:

It is probable that a barrel factory will soon be erected in Chattanooga.

A. C. CONN.

Can Some of our Readers Give the Information?

MONTEZUMA, GA., August 20, 1886.

Editor Manufacturers' Record:

Please state in the MANUFACTURERS' RECORD the profit in manufacturing handles, spokes, whiffletrees, etc., where labor is cheap and timber only a mile or so from factory. Give cost of a small plant.

W. G. CHRISTOPHER.



DECKER'S Patent Washing Machine Improved, approaches nearer the old method of hand-rubbing than any device yet introduced to the public. Easily worked and washes perfectly clean.

Circulars free. N. C. BAUGHMAN, York, Pa. Please mention this paper when you write.

McShane & Bell Foundry

Fine Iron and Brass Castings Made to Order.

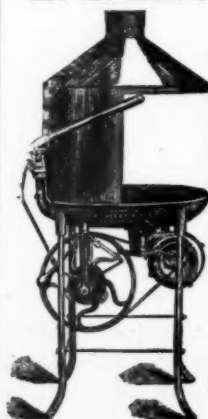


Manufacture those celebrated Bells for Tower Clocks, Court-Houses, Cotton Mills, Factories, &c. Prices and catalogues sent free. Address H. McSHANE & CO. Baltimore, Md.

Mention this Paper.

THE CHAMPION LEVER BLOWERS & FORGES

Are the Leaders of the World.



An entirely novel construction. "They have no equal." No Cog Wheels, Ratchets, Pawls, Gum Balls or other Friction Devices to wear out in a short time. Easy Motion, Powerful Blast, Noiseless and Durable. Guaranteed to give entire satisfaction. Write for catalogue and prices.

CHAMPION BLOWER & FORGE CO., No. 22 to 26 East James, LANCASTER, PA.

WATER WHEEL WANTED.

Parties having a second-hand Leffel Water Wheel, size 48-in. to 60-in., for sale cheap, may find a buyer by giving full description and lowest cash price to the undersigned.

J. N. TORRENCE, Gaffney City, S. C.

NORTHERN AND ENGLISH MARKETS**SOUTHERN REAL ESTATE**

Agricultural, Timber, Grazing and Mineral Lands; also Manufacturing Properties.

CLARENCE GORDON,

Member of the Real Estate Exchange and Auction Room, (Limited.)

50 LIBERTY STREET, NEW YORK.

Agencies in Boston and London.

This business furnishes favorable opportunity to **SOUTHERN SELLERS**, whilst it brings reliable **INVESTMENT TO CAPITALISTS** by a system that refuses to handle property that will not submit to examination and report by experts of this office; thus providing in the best markets full, skilled and guaranteed description of distant offerings. Expert examiners at various Southern points. Circulars on application. Correspondence invited.

Mention Manufacturers' Record when writing.

VALUABLE COAL & IRON Lands For Sale.

Fifty thousand acres of carefully selected coal lands, located in the Black Warrior river coal field of Alabama, beginning about 8 miles from Tuscaloosa, on both sides of the Black Warrior river, which is now navigable from Tuscaloosa to Mobile, and which the U. S. government is now engaged in making navigable to and above these lands. Valuable veins of iron ore have been found on these lands. The Georgia Pacific Railroad is now being built to run through the lands, and the new Memphis & Birmingham is being built skirted them.

The coal is of excellent quality, and in good workable seams.

The lands are well timbered with yellow pine, oak, hickory, &c.

These lands are conceded to be among the best in the State, and are offered at a price that makes them very desirable, either for development or investment. The owners will sell a controlling interest, but wish to retain at least a fourth interest.

For further information, maps, &c., call on or address
GEO. E. RIGHTER,
Office of the Griffin Manufacturing Company,
92 Liberty St., NEW YORK.

Splendid Tobacco Farm FOR SALE IN NORTH CAROLINA.

Sixty acres of fine tobacco land with splendid two story house and beautiful yard, fronting about 350 feet on the main street, in a town of 150 to 175 population, 15 miles from a city of 15,000 inhabitants and one of 5,000. The house is 300 yards from depot. There is a large stable, carriage house, corn crib and other out-houses, including 3 tobacco barns and 2 tenant houses. Good well of freestone water; 400 peach and apple trees, and 425 grape vines, all in full bearing. Splendid climate; healthy location. The buildings alone cost \$3,500. Will take \$2,500 cash. Special reasons for selling. Address **J. P. R.,** care MANUFACTURERS' RECORD.

65-HORSE-POWER HORIZONTAL, STATIONARY STEAM ENGINE FOR SALE!

Second-hand, but warranted good as new. Will be sold cheap for cash. Address,
W. C. BUCHANAN, Lancaster, Pa.

RUMSEY & CO.'S HYDRAULIC RAM IN OPERATION.

**FARMERS AND OTHERS**

having spring or running water can have the water conveyed to their premises by using a Hydraulic Ram. More than 800 different styles and sizes

LIFT AND FORCE PUMPS. HYDRAULIC RAMS, &c.

Send for circular and prices.

RUMSEY & CO., Seneca Falls, New York, U. S. A.

FOR SALE. Contractors' Supplies of all Kinds.

RAILROAD EQUIPMENT
Rails, Spikes, etc., Water, Sewer and Gas Pipe, Mill Machinery, Tools and Implements.

WE PAY CASH
For Old Iron, Rails, Scrap, and Buy and Sell Second-hand Property of Every Description. Correspondence Solicited.

BARROWS & CO., 64 & 66 Broadway, N. Y.

A Chance Seldom Offered

FOR SALE, a controlling interest in one of the best papers in the South. In grand locality for business, and the office is well patronized. Employs 20 to 25 hands in the winter season. \$4,000 cash needed only. Sold on account of failing health of the advertiser. Address,
B. C. F., care MANUFACTURERS' RECORD, Baltimore, Md.

Flour and Grist MILL For Sale!

The mill is situated in the center of the city of Anniston, and it being desirable to move it, we will sell at a bargain, all the machinery, bolting apparatus, spouts, conveyors, &c.

The mill is arranged for making roller flour, and in all appointments is first-class. Address,

ANNISTON LAND & IMPROVEMENT CO.,
Anniston, Ala.

FOR SALE.

Second-hand engines at the following bargains:

		Price.
*1	20 x 48 engine and 18 ft. fly-wheel	\$ 950
†1	15 x 30 " " 12 " "	700
*1	16 1/2 x 36 " " 12 " "	1,225

*Plain slide valve. †Putnam Automatic Cut-Off.

Delivery F. O. B. Columbus, O. Address

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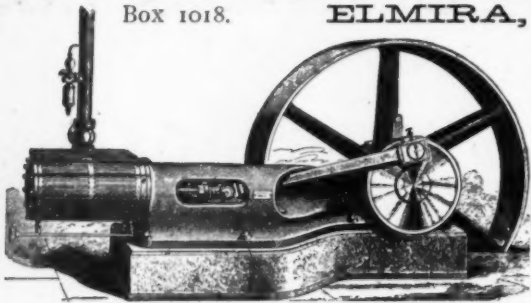
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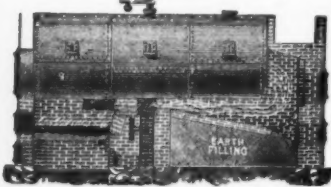
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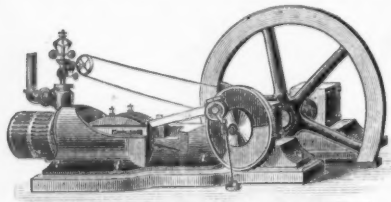
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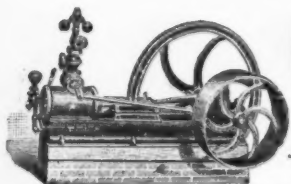
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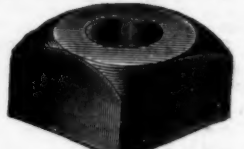
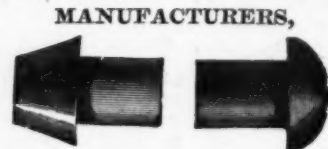
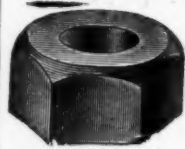


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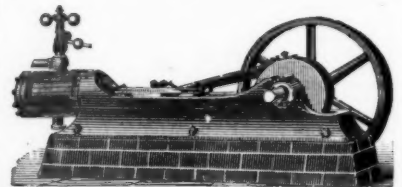
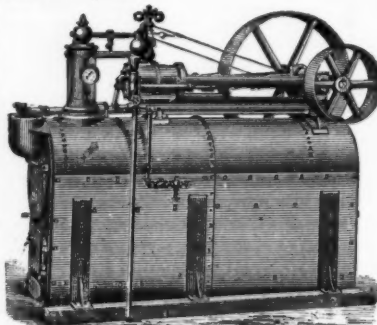
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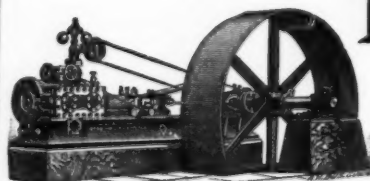
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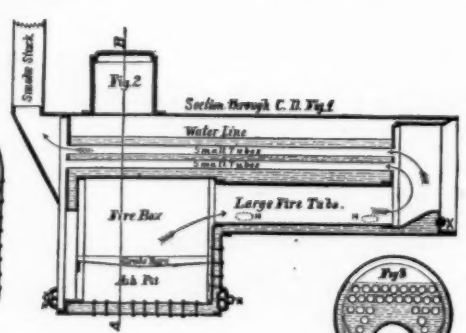
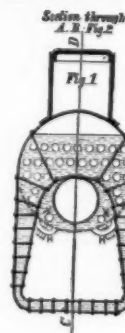
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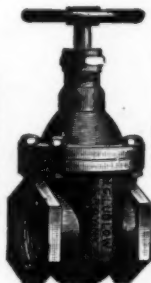
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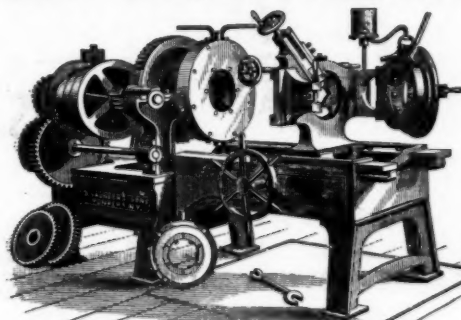


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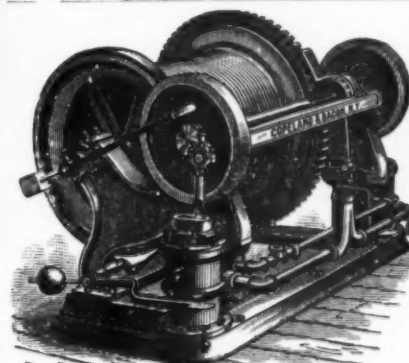
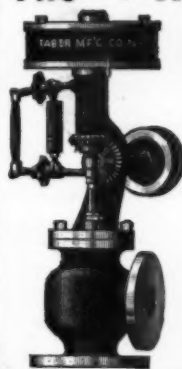
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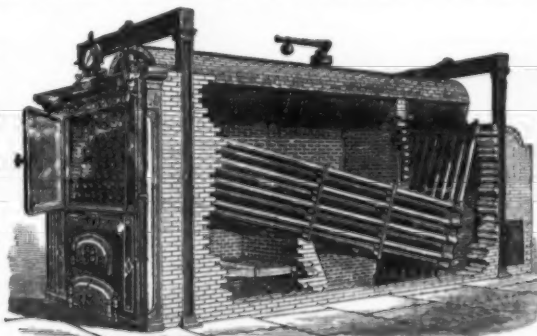
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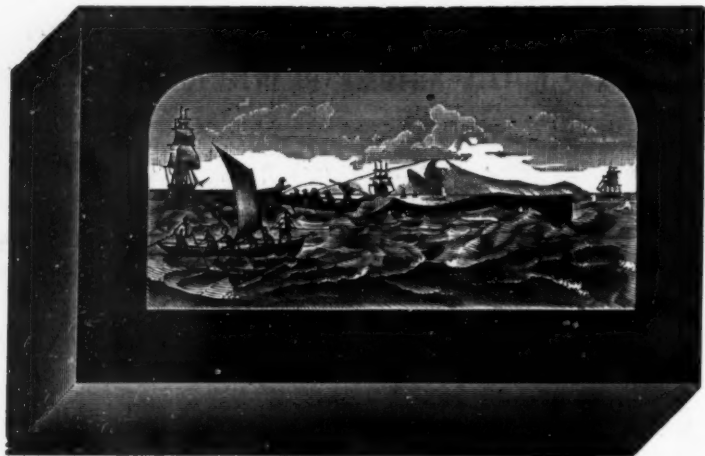
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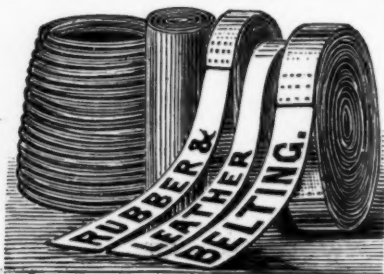
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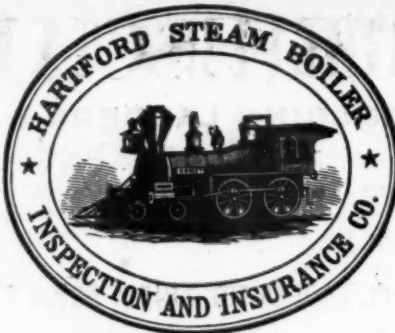
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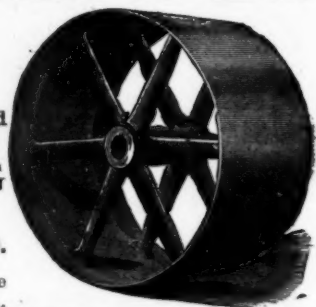
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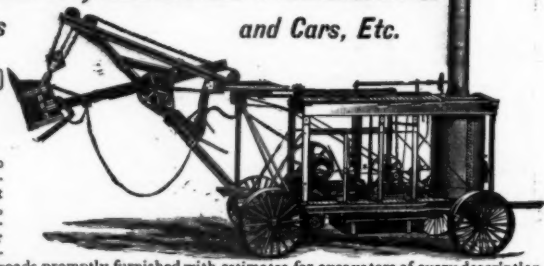
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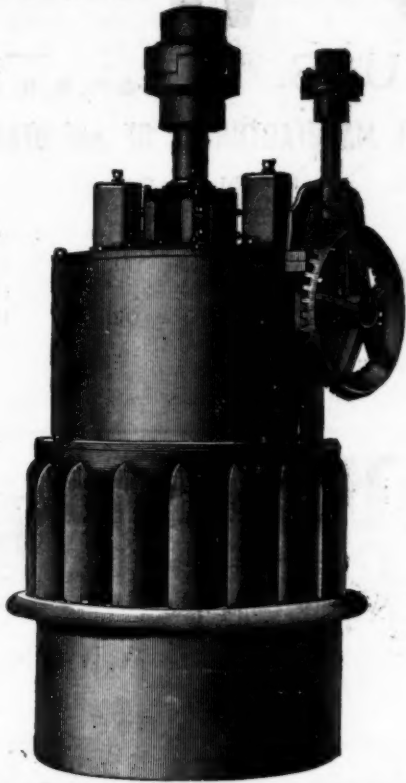
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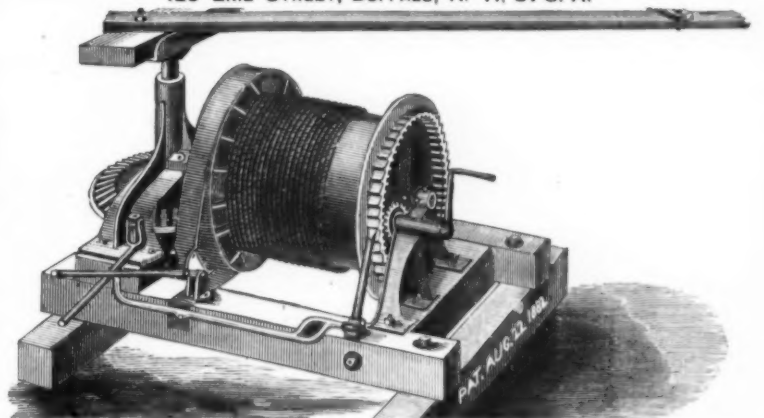
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FOR

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all other Turned Ar-
ticles of Wood.

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The illustration represents a Horse-Power Hoisting Whim. It is designed for mining purposes or raising coal or water out of a shaft. It will raise a bucket or weight weighing seven hundred pounds seventy-five feet per minute. The machine is made entirely of iron and steel excepting the sills, and is not affected by dry or wet climates. The hoisting drum is under complete control of the man at the shaft, landing the bucket by operating the levers at hand, and by which means the drum can be thrown in and out of gear at will when the horse is in motion, or the bucket lowered by the brakes as safely and conveniently as by a steam power hoist. No clutches to throw out or in gear. The drum will carry 500 feet or more of $\frac{3}{4}$ inch steel wire rope. The machine is **SMALL, LIGHT, EASILY HANDLED and DURABLE**, sufficiently strong to do the desired work, and so perfectly simple that it can be readily understood by any miner or person inexperienced with machinery. There is a safety attachment on the end of drum in case of an accident, the dog always being in gear when the bucket is being raised. Easily transported; can be made in sections small enough for mule-back transportation if desired.

We Also Manufacture Horse-Power Hoist for Railway Contractors, Bridge Builders and Quarrymen.

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White Castor Machine Oil.	Axle Grease.	Gasoline.

THE FINEST ENGINE OILS
Best Qualities, Lowest Prices.

We solicit correspondence, and will send prices and samples upon application. We guarantee our OILS to be SAME AS THE SAMPLE, and in EVERY RESPECT just as represented. TRY THEM.

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Black Lamp, coach painters.....	19@15c
Black Lamp, ordinary.....	19@15c
Black Ivory Drop, fair.....	19@15c
Black Paint, in oil.....	30@40c
Blue Prussian, fair to best.....	30@40c
Blue Prussian, fair to best, in oil.....	35@40c
Blue Chinese, dry.....	70c
Blue Ultramarine.....	12@25c
Brown, Spanish.....	10c
Brown, Van Dyke.....	5@15c
Green, chrome.....	8@15c
Green, chrome, in oil.....	9@15c
Green, Paris.....	good, 20c; best, 25c
Green, Paris, in oil.....	good, 20c; best, 25c
Iron Paint, bright red.....	10@15c
Iron Paint, brown.....	10@15c
Iron Paint, purple.....	10@15c
Iron Paint, ground in oil, bright red.....	10@15c
Iron Paint, ground in oil, red.....	10@15c
Iron Paint, ground in oil, brown.....	10@15c
Iron Paint, ground in oil, purple.....	10@15c
Lined Oil, raw.....	44c
Single Boiled.....	40c
Double.....	48c
Mineral Paints.....	2@4c
Orange Mineral.....	10c
Red Lead, American.....	6½@7c
Red Venetian, (English) dry.....	\$1.50 to \$1.75
Red Venetian, in oil.....	assorted cans, 9c; kegs, 6c
Red Indian, dry.....	8@12c
Red Pink.....	10@13c
Sienna, American, raw.....	4c
Sienna, burnt.....	4c
Sienna, burnt, in oil.....	8@15c
Sienna, raw.....	4c
Umber, burnt, in oil.....	8@15c
Umber, raw.....	3½@7½c
Umber, raw, in oil.....	8@15c
Vermilion, Chinese.....	90c
Vermilion, English.....	60@65c
Vermilion, American.....	15@18c
White Lead, American, pure dry.....	7c
White Lead, American, pure in oil.....	6½@7c
White, Paris, English, prime.....	in brls. 1½@3c
Yellow Ochre, French.....	\$1.75
Yellow Ochre, French, in oil.....	ass'd cans, 9c; kegs, 6c
Yellow Ochre, American.....	in brls., 1½@1½c
Yellow Chrome, in oil.....	8@15c
Zinc White, American, No. 1, dry.....	6@7c
Zinc White, American, No. 1, in oil.....	6½@9c
Zinc White, French dry.....	9@12c
Zinc White, French in oil.....	10@14c
OILS.	
Bleached W. Sperm oil.....	95@100
Nat.....	92@95
B. W. Elephant oil.....	70@
" Whale oil.....	48@ 50
Prime Lard oil.....	55@
Extra No. 1 Lard oil.....	50@
Lubricating oils.....	70@ 25
Miners' oil.....	35@ 40
W. Pressed Fish oil.....	30@ 32
Neatsfoot oil.....	50@ 75
Steam-refined Cylinder oil.....	30@ 40
Best Filtered.....	50@
Signal oil.....	50@
Paraffine.....	12@ 20
SUNDRIES.	
Benzine.....	gal., 8@10c
Turpentine.....	gal., 30c
Chalk.....	10@
Chalk, block.....	10@

TIN PLATES AND METALS.

TIN PLATES.	
IC, 10X14, Charcoal.....	5 25@ 5 75
IX, 10X14, ".....	6 75@ 7 25
IC, 12X12, ".....	5 50@ 6 00
IX, 12X12, ".....	7 00@ 7 50
IC, 14X20, ".....	5 25@ 5 75
IX, 14X20, ".....	6 75@ 7 25
IXXX, 14X20, ".....	8 75@
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DX, 100, ".....	5 00@
DX, 100, ".....	8 75@
DX, 100, ".....	8 75@
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IC, 10X14 & 14X20, Extra Charcoal.....	6 00@ 6 25
IX, 10X14 & 14X20, ".....	PP. 6 50@ 7 00
IX, 10X14 & 14X20, ".....	7 75@ 8 50
IX, 10X14 & 14X20, ".....	8 50@ 9 00
ROOFING PLATES.	
IC, 14X20, Charcoal Terne.....	4 50@ 4 75
IX, 14X20, ".....	6 00@
IC, 20X28, ".....	9 00@ 9 50
IX, 20X28, ".....	12 00@
IC, 20X28, Extra fine quality, charcoal roofing, genuine "old style" redipped.....	13 00@
IX, 20X28, ".....	17 00@
COKE PLATES.	
C, 10X14, bright, "B. V." grade.....	4 75@ 5 00
C, 14X20, ".....	4 75@ 5 00
C, 10X20, Gutters.....	7 50@
BLOCK TIN.	
Pig Tin.....	23
Bar Tin.....	26
LEAD.	
Pig.....	5½
Bar, (15 oz. bars).....	6½
Sheet.....	8
Pipe, full coils.....	7
TINNERS' SOLDIER.	
No. 1 Refined.....	13
Market Half-and-Half.....	14½
Strictly Half-and-Half.....	15
BABBITT METAL.	
A. 1.....	15
No. 1 Ordinary.....	10
Antimony.....	18
Excelsior Babbitt Metal, No. 2.....	10
".....	9
SHEET ZINC.	
In casks of 600 lbs., 16 oz. sq. ft. and heavy, including sheathing.....	5½
In smaller quantities, 16 oz. sq. ft. and heavy.....	6½
COPPER.	
Braziers' ordinary sizes, 16 oz. sq. ft. and heavy, including sheathing.....	17 cts. sq. ft.
Braziers' ordinary sizes, under 16 oz. and over 12 oz. sq. ft.....	18 " "
All sheets, 10 and 12 oz. sq. ft.....	20 " "
" under 10 " ".....	23 " "
Circles, 60 in. diameter and less, three cts. sq. ft. advance over prices of Sheet Copper of the same thickness.....	
Circles, over 60 in. diameter, up to 84 in. diameter inclusive, four cts. sq. ft. advance over prices of Sheet Copper of the same thickness.....	
Circles, over 84 in. diameter, five cts. sq. ft. advance over prices of Sheet Copper of the same thickness.....	
Segment and Pattern Sheets, three cts. sq. ft. advance over prices of sheets required to cut them from.....	
Cold or Hard Rolled Copper, one ct. sq. ft. over the foregoing prices.....	

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15 H. P. Boiler and Engine.
One 30 to 40 H. P. Locomotive Boiler.
All kinds of MACHINERY on long time.
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Literary Notes.

THE AMERICAN KINDER-GARTEN AND PRIMARY TEACHER is an instructive monthly magazine, devoted to the interests of parents and the teachers of young children. It is published by Fowler & Wells Co., 753 Broadway, New York. Price \$1 a year.

THE TEXTILE MANUFACTURERS' DIRECTORY OF THE UNITED STATES AND CANADA for 1886 has just been issued by Mr. H. H. Babcock, 320 and 322 Broadway, New York City. The directory gives a list of woolen, cotton, silk, jute, flax and linen manufacturers, dealers and brokers in raw material, dry goods commission merchants and jobbers, &c.

MESSRS. CASSELL & Co., New York, have recently commenced the publication of "Cassells' 'Select' Library," each volume being a collection of complete stories by leading writers. The volumes that have been issued contain interesting and well-written stories, and are certainly well worth their price, 15 cents per volume. They are well printed on good paper and neatly bound.

MESSRS. CASSELL & Co., New York, have been liberally supplying the reading public with entertaining fiction suited for summer reading. The dozen or more novels recently issued by them in succession are far above the average works of the kind in literary merit. Their two latest publications are "As Common Mortals" and "The New Man at Rossmere," both interesting stories delightfully told. The latter is by Mrs. J. H. Walworth, the author of "The Bar Sinister" and "Without a Blemish." It is a strong book, abounding in thrilling incidents and written in a pleasing and forcible style. Both books are handsomely bound in cloth. Price \$1.25 each.

TRADE NOTES.

THE Elizabeth City Cedar Works at Elizabeth City, N. C., are running on full time turning out cedar ware.

As an evidence of what is thought of the improved sand-papering machines of the Egan Company, we call attention to the following letter recently received by them from an extensive firm engaged in the manufacture of center-tables and hat racks:

OFFICE OF CONVEY, BIRELY & Co., SHELBYVILLE, IND.

THE EGAN CO., CINCINNATI, O.:

Gentlemen—After given your double-drum sander a thorough test, we feel that it is due you to give our opinion of it. Our dictionary don't contain a word that would express too highly the praise that your machine merits. We think "perfection" comes as near expressing it as any word we can think of. You are at liberty to refer to us at any time. Yours, &c.,

(Signed.) CONVEY, BIRELY & Co.,
Per J. A. Convey.

THE Roller Chain Belting Co., of Columbus, O., write us: We are still very busy, running full force, and the outlook is bright for a good season's trade.

THE Porter-Hamilton Engine has so increased in popularity as to become known at home. This week the Youngstown Rolling Mill Co., of Youngstown, Ohio, have placed the order for a 450-horse-power with their townsmen, William Tod & Co.

THE American House, Boston, continues to be one of the most popular first-class hotels in New England, and one of the best patronized at all seasons of the year. †

List of Patents.

The following Patents were granted to citizens of the Southern States, bearing date Aug. 17, 1886. Reported expressly for this paper by Louis Bagger & Co., Mechanical Experts and Solicitors of Patents, Washington, D. C.

Bartly, Robert, Ennis, Tex. Pruning implement	347,552
Baruch, Nathan, and O. L. Williams, Athens, Ga. Feather renovator	347,458
Batchelor, J. F., Baltimore, Md. Freight car	347,553
Bloede, V. G., Baltimore, Md. Improving the finish and durability of fabrics for window shades, &c.	347,315
Brandes, H. H., Corydon, Ky. Harness-bridle attachment	347,464
Carr, W. P., Tazewell, Ga. Cotton-press	347,468
Davis, J. V., Huntington, W. Va. Bolting and purifying flour	347,326
Engelhardt, J. H., Jr., Montgomery, Ala. Water-closet seat protector	347,586
Ethridge, J. H., Paluxy, Tex. Dust-box	347,701
Fowler, C. W., and E. H. Shelman, Brandenburg, Ky. Hand-grenade	347,587
Greenleaf, Abner, Baltimore, Md. Fire-extinguishing apparatus	347,593
Hollingsworth, Joseph, Kibbourne, La. Cotton hoeing machine	347,605
Holloway, C. T., Baltimore, Md. Chemical fire-extinguisher	347,606
Holloway, J. C., Sr., Eddyville, Ky. Vehicle-hub	347,426
Holloway, J. C., Sr., Eddyville, Ky. Hub	347,427
Jones, L. T., Baltimore, Md. Shoe-brushing machine	347,715
Mason, J. H., Springfield, Ark. Cultivator	347,725
McQueen, F. J., Ocala, Fla. Electric train-controlling system	347,628
Mergenthaler, Otmar, Baltimore, Md. Machine for producing type-hot, (2 patents)	347,629
Moore, T. J., Wacissa, Fla. Egg preserving apparatus	347,498
Phillips, J. H., Wheeling, W. Va. Machine for forging horseshoe nails	347,510
Sharp, T. E., Worthington, W. Va. Meat-tenderer	347,651
Smith, R. F., Pleasant Hill, Ala. Gas-engine	347,656
Thier, C. A., Concord, N. C. Tappet for stamp mills	347,661
Van Winkle, Edw., Atlanta, Ga. Cotton-gin	347,666
Vance, T. C. H., Louisville, Ky. Electric clock and indicator system	347,399
Walton, G. L., Bougere, La. Car-coupling	347,537
Wimpee, William, Rome, Ga. Cultivator, cotton-planter and fertilizer-distributor	347,545

PATENTS
FOR INVENTIONS

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Special attention paid to placing loans on the best real estate security in city or country at 8 per cent. per annum.

REFERENCES—HON. WM. R. COX, Washington, D. C.; HON. WALTER HUTCHINS, New York City; WM. HAMERSLEY, Esq., Hartford, Conn.

FOR SALE.

AN ESTABLISHED BUSINESS and a splendidly built two-story brick building erected expressly for it. Fine opening for a man of small means, who wants to engage in the manufacturing, repairing and selling of buggies, wagons, plows, etc. Reason for selling: Desire to engage exclusively in the manufacture of farm wagons for the wholesale trade. Apply or write to **Owensboro Wagon Manufacturing Co., Owensboro, Ky.**

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Power Hammer,
BY FAR THE BEST!

Blow accurate, powerful and elastic. Will increase the profits of any shop.
70 Kilby St., BOSTON, MASS.
Beaudry & Cunningham.



Business Chances.

42 For the purpose of making the **MANUFACTURERS' RECORD** a still more valuable medium of communication between its readers North and South, we will publish, **FREE OF CHARGE**, short advertisements, not exceeding 40 words, from those in the South who have good business openings that they wish to bring to public notice, capital wanted for industrial enterprises, &c., &c.; while readers in other sections who desire to engage in manufactures at the South are also invited to use these columns, without cost, either in seeking information regarding the advantages and special claims of different localities, or for asking about good openings for men and money. This department is also free for Southern manufacturers who wish to advertise for mill managers, superintendents, engineers, &c.

In corresponding with any of these advertisers please mention the **Baltimore Manufacturers' Record**. Parties advertising in this column must have replies sent to their own address, and not to care of Manufacturers' Record, unless stamps are sent for forwarding replies. Advertisements sent not in accordance with this requirement will not be inserted.

FOR SALE AT A GREAT BARGAIN.—A planing mill and fixtures, with 30 horse-power automatic engine and boiler. This property is situated on the railroad, in the most go-ahead and thriving town in North Carolina, and is a splendid opening for an enterprising party. For particulars apply to Walter B. Gwyn, Asheville, N. C.

WANTED.—A practical foundry man, with 4,000 to 5,000 dollars, to take an interest in a machine and boiler works in a Southern city. A splendid opening for the right man. Address: Practical, care Baltimore MANUFACTURERS' RECORD.

SPLENDIDLY wooded mountain land and three hundred acres best bottom, on the Catawba river, adjoining Western North Carolina Railroad, for sale at a bargain. Also nice dwelling house. J. Henry Boardman, Asheville, N. C.

WANTED.—At once a party with experience and capital enough to establish a planing, moulding and bracket shop. Local trade guaranteed to be sufficient to keep the machinery busy. Influence of strong railroad company guaranteed. Live growing town demands the immediate erection of the above establishment. Machinery carried free from either New York or Baltimore to location. Address the State Commissioner of Immigration, J. T. Patrick, Raleigh, N. C.

TIMBER MERCHANTS—Will find Apalachicola, Fla., the finest opening in the South. Inexhaustible supply of yellow pine and cypress, which can be procured at cheap prices. Sticks measuring three and four thousand feet of merchantable lumber brought to market. Enquiries answered by H. W. Johns on, Apalachicola, Fla.

ONE of the finest opportunities offered to party with small means who desires a half interest in an established sash, door, blind and moulding factory. The factory is now running to its fullest capacity, and orders far ahead are always on hand. Address J. B. Makepeace, Sanford, N. C.

A VALUABLE water power and 500 acres of land, on which is several deposits of very fine marl, which might be manufactured into fertilizer. For information address A. J. Potter, Town Creek Post-office, N. C.

FOR SALE AT A TREMENDOUS SACRIFICE.—One of the best cotton mills in North Carolina; finest water power; best location; machinery and buildings all new. This property can be bought at one-third its cost. Address H. C. Brown, Mount Airy, N. C.

TO MANUFACTURERS.—Partner wanted with \$10,000 or \$15,000 capital by a technical man of long experience to start an important new industry in the South, which proves a great success elsewhere. A splendid chance for the right man. References exchanged. Address John Sterling, 49 West Eight street, Cincinnati, O.

WANTED.—SITE FOR NEWSPAPER.—Two enterprising Northern newspaper men, one an editor of experience, the other a practical printer, would like to locate in some pushing Southern town where a daily, Sunday or weekly could be made to pay. Names of advantageous points solicited. Address C. C. Bradford, care of MANUFACTURERS' RECORD.

THE inventor of a corn planter wants money to patent it. Has used it himself four or five years, constantly improving on it. It will plant corn, peas and cotton and is a success. Will give an interest in it to anyone who will furnish money to have it patented. Address, George W. Moon, Sparta, Blenville Parish, La.

JUNCTION CITY, KY., located at the crossing of the Cincinnati, Southern and Louisville & Nashville Railroads, offers the finest advantages to manufacturers. Those desiring to see the place are invited to attend our sale of lots, September 9. Correspondence solicited. W. T. Ewing, Chattanooga, Tenn.

IRON MINE and water power for sale. Situated in the finest section of North Carolina in Surry county, on the C. F. & V. V. Railroad. For information address, H. C. Brown, Mt. Airy, care of J. T. Patrick, Raleigh, N. C.

FOR SALE.—The right to cut the timber from 40,000 acres of land, heavily timbered, (with good facilities for handling,) lying in a solid body in Burke county, N. C. Apply to Piedmont Lumber Ranch & Mining Co., Piedmont Springs, N. C.

WANTED.—A partner to take interest in fruit and nursery business. Address, E. E. Forsyth, Raleigh, N. C.

FOR SALE.—Two miles from the thriving town of Hickory, N. C., on the Catawba River, a water-power—two hundred horse; partially improved; 100 acres land; a good business chance for investment. For particulars, apply to Hall Brothers, Hickory, N. C.

FOR SALE.—A Grist and Saw Mill, run by water power. The stream is an outlet of Black Lake. For information, address H. E. Shaw, Grand Hill, care of J. T. Patrick, Raleigh, N. C.

WANTED.—A partner with \$2,000 or \$4,000, to take interest in a sash, blind, furniture and handle factory. Splendid water dam and bay. Buildings nearly ready. Timber of all kinds at hand and cheap. Would prefer a practical wood-worker. Good market. No competition. Fine home. Address, A. P. Kelly, Tazewell C. H., Va.

FOUNDRY AND MACHINE SHOP WANTED at Andrews, a new town on Western North Carolina Railroad. A splendid opening for an enterprising and experienced man who has money enough to start business in a small way. John F. Boyd, Glen Alpine, N. C.

RARE OPPORTUNITY—Pollard, Escambia county, Alabama, on the L. & N. R. R. and Conecuh river, possesses rare advantages for spoke and handle, barrel, bucket, or any enterprise for manufacturing wood work. Every variety of wood in abundance. Splendid facilities. Correspondence solicited. J. C. Witt, Pollard, Ala.

WANTED.—"A man thoroughly competent in general iron work and one capable of superintending a number of men. Address, W. T. Bradford, Springfield, Ohio.

WANTED.—A Partner with \$3,000 or \$4,000 to take an interest in a sash and blind factory with planing mill attached. Good opening for a good man. Would prefer a first-class architect competent to superintend work. Address J. W. C., care MANUFACTURERS' RECORD.

A TANNERY, several general merchandise stores, a woodenware factory wanted at Andrews, a new town in North Carolina. Address Southern Land & Navigation Co., No. 1 Broadway, New York.

THREE-FIFTHS interest of Pen-Rhyn State Quarry, Washington county, Va., will be sold for \$5,500 cash. Quarry on South Holston river, shows face over 80 feet above water, even and smooth. The best slate for large sizes ever discovered. Remaining interests can be bought. Apply to C. R. Boyd, Wytheville, Va.

LIBERAL.—Green Forest, Va., offers fine improved water power and site free to any who will erect and run woolen, paper, cotton, or any other mills working 20 hands or more. Two railroads; plenty raw material. Address B. C. Moomaw, Green Forest, Va.

THE Talladega Oil Mill & Public Ginnery is offered for sale, or would form a stock company for manufacture of fertilizers and soap. Correspondence solicited. W. E. Vance, Talladega, Ala.

A RARE CHANCE for a first-class brick and drain tile maker to build up a large business in Andrews, a new town on Western North Carolina Railroad. For particulars address John F. Boyd, Glen Alpine, N. C.

VALUABLE COAL PROPERTY FOR LEASE in Montgomery county, Va., two miles from railroad. Address Chas. C. Kasey, New River Depot, Va.

WANTED.—A practical paper manufacturer with some capital, to assist in running a paper mill for working refuse sugar cane fibre. Mill is erected and in running order, on a large sugar plantation, on railroad and river in Louisiana. Address K. Box 3,330, New Orleans, La.

MECHANICAL ENGINEER and draughtsman competent and reliable, experienced on machine tools, hoisting machinery, turbines, mining machinery, etc., desires situation. Address, Peta, P. O. Box 228, Torrington, Conn.

SITE FOR COTTON MILL.—go acres of land just outside corporate limits of Atlanta, well drained, has water facilities for steam, lies alongside of railroad. Charter obtained; owners will place a fair valuation on the land, taking stock for same. Parties contemplating building cotton mill, address James W. Harle, Atlanta, Ga.

WANTED.—A partner with \$2,000 capital in a handle factory, now established with good trade; have a good water power. Timber very cheap and location good. Address G. W. Simpson, Salisbury Furnace, Botetourt county, Va.

IRON FURNACE FOR SALE.—One of the most desirable charcoal furnaces in Virginia, located in Wythe county, will be sold on liberal terms; abundance of fine ore, water and timber. Address J. A. Walker, Wytheville, Va.

WANTED.—A competent machinist who is qualified to conduct a foundry and machine shop, and comes well recommended, can purchase an interest in a well-established business at a bargain and secure constant employment. For particulars address F. B. Alexander, Hickory, N. C.

FOR SALE.—A splendid water power in Alabama, 12 miles southwest of Anniston, 3 miles south of a depot on the G. P. Railroad, 3 miles west of a depot on the E. T., V. & G. Railroad and A. & A. Railroad. A splendid location for cotton mill, 250 horse-power. Banks and bottoms rock; never failing stream, etc. Address, C. H. Simmons, Munford, Ala.

WANTED.—Practical man for spoke and handle factory; also location for same in Virginia, North or South Carolina or Georgia. Address E. Maxwell, Carter's Mills, N. C.

OPPORTUNITY.—Riverside Station, Shenandoah Valley Railroad, Rockbridge county, Va., is a good point at which to locate any manufacturing enterprise working wood and iron material. Arrangements can be made for water power if desired. Address J. C. Shields, Staunton, Va.

SITUATION wanted by a practical machinist, engineer, sawyer and saw filer. Address, J. B. Thomas, Melson, Ga.

A GREAT BARGAIN is offered to close out a smoking tobacco factory, well equipped, extensively advertised, with the brand of goods popularly known and handled by a large trade throughout the Southern States. Apply to F. B. Alexander, Hickory, N. C.

Manufacture Agricultural Implements and Machinery, viz: Chilled Plows, Hillside Plows, Cider Mills, Feed Cutters, Corn Shellers, Circular Saw Mills, Mill Gearing, Shafting, Pulleys, and a general line of Machinery.

Chicago Iron Market.

Specially reported by ROGERS, BROWN & Co. W. W. BACKMAN, Resident Agent.

CHICAGO, August 23, 1886.

There has been a fair run of buying through the week, making a good aggregate, but without any large orders. The feeling in the market remains unchanged. One source of weakness to pig iron has been the extreme difficulty of maintaining prices on bar, sheet and other manufactured forms. There seems to be no question but that firmness has been communicated to that branch of the market, and prices are a shade higher. Foundrymen are getting better figures for their work, or rather are declining to work at the unremunerative prices that were being made earlier in the spring. A difficulty among Chicago foundrymen is in getting sufficient skilled moulders. A great deal of pig iron is coming here from various districts, and Chicago still remains one of the most closely contested pig iron markets in the United States. Southern iron at the advanced price is not being sold much. Orders now favor Hanging Rock and Northern Ohio brands. The Hanging Rock irons, which practically disappeared from this market for two or three years, are now coming in again freely, and are largely used for mixture with lake ore and Southern brands. The demand for old rails continues sharp, but the railroads are looking for something better ahead and are disposed to hold on to the material. We make no change in last week's quotations, which are for cash f. o. b. Chicago. We quote:

CHARCOAL FOUNDRY.

Lake Superior	18 00@20 00
Southern	18 50@20 00
Hanging Rock	21 00@22 00

COKE AND STONE COAL FOUNDRY.

Ohio (Hanging Rock) Softeners No. 1.	18 50@19 50
" " Blackband	19 00@20 50
" " Jackson county	18 50@19 00
" " Lake ore and cinder	17 50@19 00
Southern Coke, No. 2	16 50@17 50
" " No. 2 1/2	16 00@17 00

CAR WHEEL AND MALLEABLE.

Lake Superior	19 00@21 00
Standard Southern	21 00@23 00
Hanging Rock, cold blast	28 00@—
" " warm blast	20 00@22 00

OLD MATERIALS.

Old Rail, American	21 50@—
Old Wheels	16 00@16 50

Louisville Iron Market.

Specially reported by GEO. H. HULL & Co., Commission Merchants for the sale of Hot and Cold Blast Pig Iron.

LOUISVILLE, KY., August 23, 1886.

The market for pig iron shows great firmness. A large majority of furnaces are not only sold up, but are sold so far ahead they are declining to book orders even at outside figures. The demand is increasing and every indication points to an early advance. We quote for cash in round lots as below:

PIG IRON.

Southern Coke, No. 1 Foundry	16 00@17 50
" " " "	15 00@16 50
" " " "	14 50@16 00
Hanging Rock Coke, No. 1 Foundry	16 50@17 00
" " " Charol	18 00@19 00
Southern Charcoal, No. 1 Foundry	17 00@19 00
Silver Gray, different grades	14 00@15 50
Southern Coke, No. 1 Mill, Neutral	14 50@15 50
" " " " Cold Short	13 50@14 00
" " " " " "	13 50@14 00
Southern Charcoal, No. 1 Mill	16 50@17 00
White and Mottled, different grades	12 00@13 00
Southern Car Wheel standard brands	23 50@24 50
" " other brands	19 00@21 00
Hanging Rock Cold Blast	23 00@25 00
" " Warm	19 00@20 00

Specially reported by W. B. BELKNAP & Co., Nails Wire, Iron, Hardware, Carriage and Wagon Goods.

LOUISVILLE, KY., August 23, 1886.

The activity in all sorts of business, which the trade journals and dailies as well have been quick to perceive and note, still continues and promises to hold out until the high tide of fall trade shall have passed.

Bar iron.—There is a first rate demand for bar iron. Mills are slow in filling assortments. They say that all their specifications call for immediate delivery, but that so far no one is buying for the future.

Sheet iron.—All guages of sheet are somewhat firmer. The advance could hardly be called, however, more than \$1 per ton. The season for light sheet is just opening, and

both common and better grades are in good request.

Steel.—There is a good demand for tool steel of high grade. So much so-called cast steel has been put upon the market of late years that the recognized "extra and special grades are being more" and more called for.

Nails.—There is a widespread inquiry for nails, as prices have reached low water mark once again, low enough indeed to tempt speculation.

Wire, like the other great staples, is selling freely enough. The demand for 3-inch or hog barbed is specially heavy, and the factories seem behind. We quote:

Bar Iron	1 80	1 90
Crescent Steel	10	12
Plow Steel slabs	30	35
No. 27 Sheet	20	25
Galvanized sheet, best	50	55
Galvanized Iowa barbed wire	40	45
Burden Shoes	40	45
Junata Shoes	3 75	3 85
Carriage Bolts	75	80
Steel nails	25	35
Iron Nails	15	25
Rope, Sisal	9	9 1/2
Rope, Manila	10 1/2	13
Screws, American Screw Co's list	75	100
Axes	75	77 00
Cross cut saws, wide, per foot	25	33 cts.
Cross cut saws, narrow, per foot	21	23 cts.

With concessions to large or wholesale buyers.

St. Louis Iron Market.

Specially reported by ROGERS, BROWN & Co., Gay Building, 204 N. 3rd street, St. Louis. W. H. SHIELDS, Manager.

ST. LOUIS, August 23, 1886.

The market is active, with inquiries from all quarters. All prices are firm, and some furnaces have advanced 50 to 75 cts. a ton over selling price of two weeks ago. The Missouri charcoal furnaces are well sold up, and have practically no irons to sell. Cast scrap is very scarce, and the demand for low grades of mill iron is in consequence very active. Old rails are scarce and show a material advance, while old wheels are quite plentiful, the demand being limited. We quote:

HOT-BLAST CHARCOAL.

Missouri	17 00@18 00
Southern	17 50@18 50
Ohio	—@—

COKE AND COAL.

Missouri	—@—
Southern No. 1	16 75@17 75
Southern No. 2	16 00@16 75
Southern No. 2 1/2	—@—
Ohio Softeners	17 00@20 00

MILL IRONS.

Missouri	16 00@16 50
Southern	14 50@15 75

CAR-WHEEL AND MALLEABLE IRON.

Southern	20 00@25 00
Lake Superior	21 00@23 00

MISCELLANEOUS.

Old Wheels	16 00@16 50
Old Rails	20 50@21 00
Connellsville Coke, East St. Louis	—@5 65

Chattanooga Iron Market.

Specially reported by LOWE & TUCKER, Brokers and Commission.

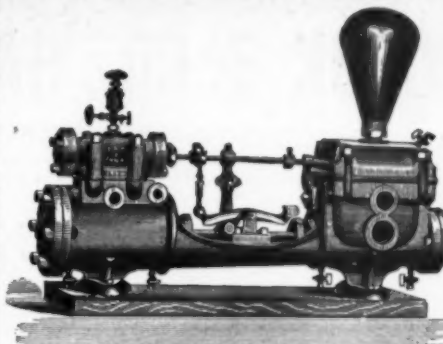
CHATTANOOGA, TENN., August 23, 1886.

There is but little change to note in business of all kinds. The past week has been but a repetition of the week previous, with an increased tendency to increased activity as the fall approaches. Building is very active, and some still larger contracts are in contemplation in the way of structures for business purposes. Pig iron appears to be steadily on the advance, and prices are ruling some higher than a month ago. There is still a great scarcity of furnace fuel, and is a serious embarrassment to some of the stocks. No difficulty is being experienced in the furnaces placing their output at somewhat better prices than a few weeks ago.

We quote:

No. 1 Foundry	14 50	15 50
No. 2 Foundry	13 50	14 00
American Scotch	13 50	14 00
Gray Forge	12 00	13 00
Car-Wheel Iron	23 00	25 00
Ores, Red and Brown	1 50	2 25
Furnace Coke	2 00	2 30
Nails, car-load lots, 30 days	—	—
Bar Iron, per 100 lb.	—	1 75
Old Rails	18 00	19 00
Old Wheels	13 00	—
Wrought Scrap, No. 1	—	70
" " No. 2	—	50
Cotton Tie Clippings	—	—
Cast Scrap	—	—
Railroad Splices	—	1 85
Railroad spikes	—	2 25
Light Steel Rails, long ton	—	—
Barb wire—Cambria link	—	—
Barbed wire—four point galvanized	—	—
Barb ware	—	—

The STANDARD Steam Pumps.



From KNOWLES' PATENTS with KNOWLES' VALVE MOTION, are the STRONGEST and MOST DURABLE Pump for every duty. MINERS, BREWERS, MANUFACTURERS IN THE SOUTH write for Prices and Descriptive Catalogue to

WHEELER & TAPPAN,

(Sole Manufacturers.)

Office, 88 WEST LAKE STREET, CHICAGO, ILL., U. S. A.

Works, 49, 51, & 53 N. Jefferson street.

STEAM PUMPS

SEND FOR PRICES.

VALLEY MACHINE CO. EASTHAMPTON, MASS.

BLAKESLEE MANFG. CO.

67 WASHINGTON ST., DU QUOIN, ILL.

STEAM PUMPS

FOR ALL PURPOSES.

SEND FOR CATALOGUE.

The CAMERON STEAM PUMP

Is the Standard of Excellence

AT HOME AND ABROAD.

THE A. S. CAMERON

Steam Pump Works,

Foot of East 23d St., New York.

CRONK'S WROUGHT IRON

Barn Door Hanger & Stay Roller.



In offering to the trade of 1886 our Celebrated Wrought Iron Hangers and Stay Rollers, special attention is called to our Iron Clad Track in connection with our Hangers. It is made complete, only requiring hammer and nails to attach it to the building. We make the broad claim that whoever uses our Hangers and Iron Clad Track has the best device known for sliding doors. These hangers never break; can not get off the track, and work so easy that they can be operated by a child. Every pair guaranteed to give satisfaction. For sale by hardware dealers generally.

CRONK HANGER CO., ELMIRA, NEW YORK.

BROWN & KING, MANUFACTURERS OF COTTON MILL SPECIALTIES.

Roller Covering, Loom Pickers and Strapping.

Dealers in Roller Coverers, Stock and Tools; Cotton and Woolen Mill Supplies.

Full Line "Hick's" United States Standard Ring Travelers, Mill Wire Goods, Spring Cotters, Belt Hooks, Lacing, &c., kept constantly on hand.

Wrought Iron Pipe Fittings and Brass Goods. Southern Agents for the celebrated "B. C. & D. Oak Tanned Patent Lap Belting, Galvin Compound Wedge Gate Valve, Imhauser's Watchman Time Detectors, Diamond Emery Wheel Machine Co., &c.

Office and Salesroom No. 62 S. Broad Street, ATLANTA, GA.

SAML. G. B. COOK & CO., HARDWARE

MANUFACTURERS' AGENTS
63, 65, 67 and 69 German St., BALTIMORE, MD.

AGENTS FOR

American Screw Co.—Screws, Rivets, Bolts, etc.
Branford Lock Works.
Buckthorn Fence Co.—Buckthorn Fencing.
Blair Manufacturing Co.—Easy Lawn Mowers.
Boss Molasses Gates.
Buffalo Hammer Co.—Cast Steel Hammers.
C. S. Bell & Co.—Farm Bells.
Carr & Crawley.—Shelf and Saddlery Hardware.
Clark Bros. & Co.—Bolts.
H. Chapin's Sons.—Planes, Rules, Levels, etc.
John Chatillon & Son.—Spring Balances.
R. S. Clark & Co.—Hand and Sleigh Bells.

A. Field & Sons.—Tacks, Finishing and Shoe Nails
Gooch Freezer Co.—Peerless Freezers.
H. C. Hart Manufacturing Co.—Shutter and Spring Hinges, Screen
Frames, &c.
Hubbard & Co.—Axe, Shovels, Hoes and Saws.
Kimball's Patent Solid Steel Shovels and Spades.
Lawson & Brenizer.—Keystone Forks.
W. T. Mersereau & Co.—Stair Rods, Dog Collars, &c.
Nicholson File Co.
Peck Bros. & Co.—Brass Cocks.
Patton Manufacturing Co.—Enameled and Finished Stoneware, &c.
Penfield, Block & Co.—Tackle Blocks.

Harvey W. Peace Co.—Hand, Rip and Panel Saws.
H. W. Reed—Brick and Plastering Trowels, Shoe Knives, &c.
Scott Manufacturing Co.—Peach and Apple Parers, Ice Creepers, &c.
Henry Seymour Cutlery Co.—Seymour's and Massachusetts Shears.
B. Seitz.—Root Hammers.
Underhill Edge Tool Co.—Hatchets, Adzes, &c.
Walker Horse Shoe Co.—Patent Horse and Mule Shoes.
R. Wallace & Son, Manufacturers.—Plated Ware.
Wheeling Hinge Co.—Wrought Goods.
Woodruff, Miller & Co.—Ox Shoes.
J. W. Williams & Son.—Thimble Skeins.
Zimmerman Shutter Fasteners.

Scott's Rotary Knife Peach Parer

THE ONLY PEACH PARER, THE BEST APPLE PARER.

Made in Two Sizes: "FAMILY" and "MAMMOTH"

—ALSO—

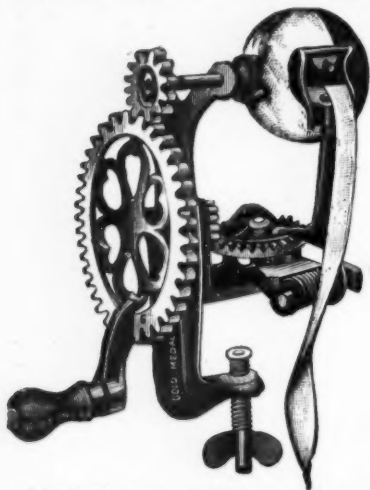
"IMPROVED VICTOR" Apple Parer, Corer and Slicer.

"ORIOLE" Apple Parer, Corer and Slicer.

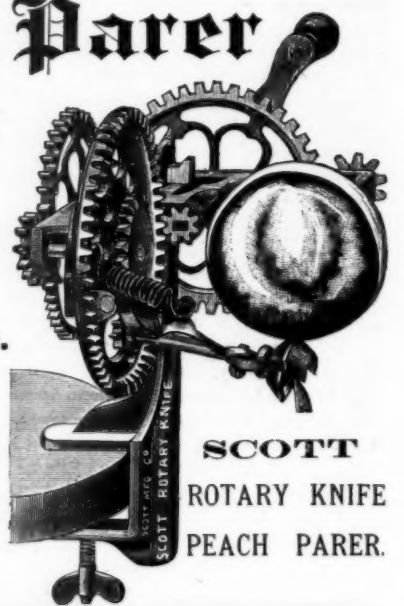
GOLD MEDAL APPLE PARER.

"UNIVERSAL" and "NEW IDEA" Can Openers.

SCOTT MANFG. CO., Baltimore, Md.



GOLD MEDAL APPLE PARER.



SCOTT
ROTARY KNIFE
PEACH PARER.

BAGNALL & LOUD BLOCK CO. BOSTON, MASS.

Largest Manufacturers of Tackle Blocks in the World.

Manufacturers of the Latest Improved Self-Adjusting ROLLER BUSHED and GENUINE METALINE BUSHED
and Iron Bushed Rope and Iron Strapped

—TACKLE BLOCKS.—

CLASP OPEN.



Improved Self-Adjusting Roller Bushed Iron Sheave.



Improved Harcourt Patent Block.

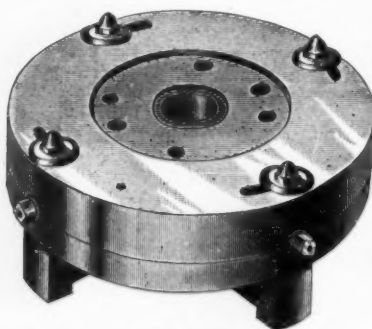


Improved Self-Locking Link Snatch Block.

Send for the Celebrated
STAR BRAND.

Send for Catalogue
No. 5.

NEW PATENT COMBINATION LATHE CHUCK.



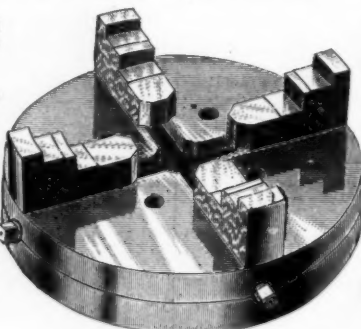
BACK VIEW.

This Chuck is constructed
upon the same general principles
as the well-known

Horton Chuck

with the additional feature that
it can be used either as an

*Independent,
Universal Concentric
or Eccentric.*



FRONT VIEW.

Warranted to be the
Strongest, Most Ac-
curate, and Easily
Operated Combina-
tion Chuck in the
market.

TRADE MARK:

The Horton Lathe Chuck.



VIEW OF WORKING PARTS.

Manufactured by THE E. HORTON & SON CO., WINDSOR LOCKS, CONN., U. S. A. Send for Illustrated Price-List.

BRIDGEPORT BRASS CO., 19 Murray Street, NEW YORK.

— MANUFACTURERS OF —

Sheet Brass, Seamless & Brazed Brass AND Copper Tubing

BRASS and COPPER WIRE, and RODS,

Gas and Kerosene Burners and Trimmings. The Celebrated Leader Burner a Specialty.

ELECTRIC COPPER WIRES, Plain and Covered. Particular Attention given to Cutting Blanks and Metals to Order.

→ HARDWARE. ←

Baltimore WHOLESALE Prices.

ANVILS.

Eagle and Vulcan..... 10 c. dis 20%
Wright's..... 10%
Armstrong's Mouse Hole..... 10%
Trenton..... 10%
Wilkinson's..... 10%

AUGERS AND BITS.

Conn. Valley Mfg. Co..... extra, 60¢ to 10¢
Douglass Mfg. Co..... No. 1, 60¢ to 10¢
Ives..... 10%
Cook's Douglass Mfg. Co..... dis 60¢ to 10¢
Griswold..... dis 50¢ to 10¢
Patent Solid Head..... dis 25%
Russell Jennings' Auger, Dowell, Machine-
Dowel and Hand Rail Bits..... dis 10¢ to 10%
Ives' Jennings' Bits..... dis 40¢ to 10%
Expansive Bits, Clark's small, 18; large, 26..... dis 25%
Expansive Bits, Ives..... 30¢ to 33%
Expansive Bits Blake's..... 30¢ to 40%
Hollow Augers, Ives..... dis 25%
Hollow Augers, Douglass..... dis 25%
Hol. Aug., Bonney's Adjust., 1/2 doz \$48, dis 25%
Hol. Aug., Stearns' Adjust., 1/2 doz \$48, dis 25%
Hol. Aug., Ives' Expansive, each \$4.50, dis 30%
Hol. Aug., Universal Expansive, each \$4.50, dis 30%
Wood's..... dis 25%
Gimlet Bits..... 75¢ to gross, dis 50%
Gimlet Bits, Diamond..... 1/2 doz \$1.25, dis 40%
Double Cut Gimlet Bits, Shephardson's..... dis 40%
Double Cut Gimlet Bits, Douglass..... dis 40%
Double Cut Gimlet Bits, Ives..... dis 50%
Morse's Bit Stock Drill..... dis 40% to 10%
L'Hommedieu's Ship Augers..... dis 15%

Sewing.

Patent Sewing, Short..... 3/4 doz gross—dis 40¢ to 10%
Patent Sewing, Long..... 1/2 doz gross—dis 40¢ to 10%
Patent Peg, Plain Top..... 10¢ to gross—dis 40¢ to 10%
Patent Peg, Leather Top..... 1/2 doz gross—dis 40¢ to 10%

AWLS.

Awls, Sewing, Common..... 75¢ to \$1
Awls, Shouldered Peg..... 75¢ to \$1
Awls, Patent Peg..... 50¢ to \$1.50
Awls, Shouldered Brad, 1/2 gross \$2.70—dis 25% to 10%
Awls, Handled Brad..... 1/2 doz gross—dis 25% to 10%
Brad Sets, Aiken's..... 1/2 doz \$1.25—dis 45% to 10%
Brad Sets, No. 42, \$1.50; No. 43, \$1.50—dis 70%
Brad Sets, Stanley's Exc. No. 1, \$2.50, dis 30% to 10%
Brad Sets, Stanley's Exc. No. 2, \$4.50, dis 30% to 10%
Brad Sets, Stanley's Exc. No. 3, \$7.50, dis 30% to 10%

AXES.

Collins & Co..... 75¢; beveled, \$1.75
Cohoes Mfg. Co..... 75¢; beveled, \$1.75
Lippincott or Mann's.....
Single Bit, 1/4 to 3/4 and under..... 1/2 doz \$6.50 net
Single Bit, 1/2 to 6 and over..... 1/2 doz \$7.00 net
Single Bit, beveled..... 50¢ doz. advance
Double Bit, 1/4 to 3/4 and under..... 1/2 doz \$12.00 net
Double Bit, 1/2 to 6 and over..... 1/2 doz \$13.00 net
Double Bit, beveled..... 1/2 doz \$13.00 net
Second quality Axes..... 50 cts. less than above

AXLES.

Sheldon & Co., iron..... 55¢ off
steel..... 55¢ off
AXLE GREASE—Fraser's..... 10¢ 6c.

BALANCES.

Spring Balances..... dis 50%

BELLS.

Hand, Light Brass..... dis 75¢ to 10%
Hand, White Metal..... dis 60%
Hand, Silver Chime..... dis 20% to 10%
Hand, Globe (Cone's Patent)..... dis 25% to 10%
Gong, Abbe's..... dis 20% to 10%
Gong, Yankee..... dis 20% to 10%
Gong, Barton's..... dis 20% to 10%
Leon Reading..... dis 25% to 10%
Pull, Brook's..... dis 50% to 10%
Crank, Taylor's..... dis 25% to 10%
Lever, Sargent's..... dis 55% to 10%
Bloomfield..... dis 20%
Lever, R. & E. M. Co's..... dis 45% to 10%
Call..... dis 25%
Cow, Common Wrought..... dis 55% to 10%
Cow, Western, Sargent's List..... dis 55% to 10%
Cow, Kentucky, Sargent's List..... dis 55% to 10%
Cow, Moore's or Dodge's, Genuine Ky., new list:
Nos. 0 1 1/2 2 3 5 6 Hog 1 doz 70
\$12 \$10 \$8 \$7 \$4 \$3.50 \$2.50 \$1
Cow, Texas Star..... dis 40%

BELLGOWS.

Blacksmith's Common..... dis 50% to 10%
Molder's..... dis 25%
Hand Bellows..... dis 25%

BLIND FASTENERS.

Francis..... dis 20%
Mackrell's..... 1/2 doz pairs \$1.00, dis 10%
Van Sand's Screw Pattern..... 1/2 doz gross, net
Van Sand's Old Pattern..... 1/4, \$8; 1/2, \$8.50 gross, net
Merriman's..... new list, net
Zimmerman's, 10% in..... gross \$33.00
Zimmerman's, 9% in..... gross \$30.00

BLIND STAPLES.

Barbed, 1/4 in. and larger..... 1/2 doz 21¢ net
Barbed, 3/4 in..... 1/2 doz 13¢ net

BLOCKS.

Penfield Blocks..... dis 50%
Bagnall & Loud..... dis 50%

BOLTS.

Cast Iron Barrel Shutter, &c..... dis 55% to 10%
Cast Iron Chain (Sargent's list)..... dis 60% to 10%
Wrought Barrel..... dis 55% to 10%
Wrought Square..... dis 55% to 10%
Wrt. Shutter, all iron, Stanley's list..... dis 50% to 10%
Wrt. Shutter, Brass Knob, Stanley's list..... dis 55% to 10%
Wrought Shutter, Sargent's list..... dis 55% to 10%
Wrought Sunk Flush, Sargent's..... dis 65% to 10%
Wrought Sunk Flush, Stanley's..... dis 40% to 10%
Wrought B. K. Flush, Stanley's..... dis 50% to 10%
Carriage and Tire, Common, new list..... dis 80%
Carriage and Tire, Philadelphia Pattern..... dis 80%
Carriage Bolts, Clarke's..... dis 75% to 10%
Norway..... dis 75% to 10%
R. B. & W. Carriage (old list)..... dis 65%
Tire, American Screw Co's., Phila..... dis 80%
Tire, "Bay State"..... dis 65% to 10%
Eagle Philadelphia Tire Bolt..... dis 80%
stove..... dis 70%
Plover..... dis 45% to 10%
Machine..... dis 75%
Bolt Ends and Lag Screws..... dis 75%

BORAX.

Q. S. Backus..... dis 50%
Barber's..... dis 40% to 10%
Spofford's Patent..... dis 50% to 10%
Ive's Patent Braces..... dis 50%
Common Ball (American)..... dis 55%
Amidon's..... dis 50%

BORING MACHINES—WITHOUT AUGERS.

Sweet & Clark upright, 3.60 angular..... 4.40 net
Lawrence..... 3.00 net
Hubbard..... 3.00 net
Phillips, with Augers..... 7.00 7.50 net

BRACKETS.

Shelf, plain..... dis 50% to 10%
Shelf, fancy..... dis 50% to 10%

New list..... dis 70¢ to 10% to 10%
BULL RINGS.
Union Nut Co..... dis 55%
Sargent's..... dis 60% to 10%
Humason, Beckley & Co's..... dis 60% to 10%

Wrought Brass..... dis 70%
Cast Brass, Fast Joint..... dis 20% to 10%
Cast Brass, Loose Joint..... dis 10% to 10%
Fast Joint, Narrow..... dis 60%
Fast Joint, Broad..... dis 60%
Loose Joint..... dis 70%
Loose Joint, Japanned..... dis 70%
Loose Joint, Jap, with Acorns..... dis 70%
Parliament Butts..... dis 70%
Mayer's Hinges..... dis 70%
Loose Pin, no Acorn..... dis 70%
Loose Pin, Acorns..... dis 70%
Loose Pin, Acorns, Japanned..... dis 70%
Loose Pin, Acorns, Jap'd, Plated..... dis 70%
Tips..... dis 70%

Fast Joint, Narrow..... dis 65%
Fast Joint, Lt. Narrow..... dis 65%
Fast Joint, Broad..... dis 65%
Loose Joint, Broad..... dis 65%
Table Butts, Back Flaps, &c..... dis 65%
Inside Blind, Regular..... dis 65%
Inside Blind, Light..... dis 65%
Loose Pin, Wrt..... dis 65%
Loose Pin, Light..... dis 65%
Spring Hinges—
Geer's Spring and Blank Butts..... dis 30%
Hart Manufacturing Co..... dis 60% to 10%
American Spring Hinge Co's..... dis 25%
Gem Spring Hinges..... dis 25%
Blind Butts, Shepard's, Nos. 30 and 60..... dis 70%
Blind Butts, Shepard's, No. 50..... dis 70% to 10%
Blind Butts, Shepard's No. 75..... dis 70% to 10%
Blind Butts, Lull & Porter..... dis 80%
Blind Butts, Huffer..... dis 50% to 10%
Blind Butts, Clark's, Nos. 1, 3, 5..... dis 80%
Standard Lull & Porter..... dis 75% to 10%

Humason, Beckley & Co's..... dis 55% to 10%
Sargent & Co's..... \$19.70 and 21.40; dis 60% to 10%
Hotchkiss..... dis 25%
Humason & Beckley Mfg. Co..... dis 25%
Bradley's..... dis 25%
Beatty's..... dis 25% to 10%
CAN OPENERS.
American..... gross \$7.50, dis 10%
New Idea..... gross \$15.00 gross
No. 4, French..... 1/2 doz \$2.25, dis 55%
No. 5, Iron Handle..... gross \$7.50, dis 10%
Sardine Scissors..... 1/2 doz \$7.00, dis 10%
Sprague, No. 1, \$1.25; No. 2, \$2.25; No. 3, \$2.50; dis 50% to 10%
Universal..... 1/2 doz \$3.00, dis 33% to 10%

CAPS, PERCUSSION, \$1.00.
U. M. C., F. C. trimmed..... 50¢
U. M. C., F. L. ground..... 70¢ dis 10% to 10%
U. M. C., Cen. fire ground..... 70¢
U. M. C., Double W. Proof..... \$1.40 dis 10% to 10%
G. D. & S. H..... 33¢ dis 10%
E. B. 1-ro, Eley's..... 60¢
Musket, in 1-10's..... 55¢
Hicks Ground Edge in Brass Boxes..... 55¢
CARTRIDGES.
Rim..... dis 60%
Central Fire, pistol size..... dis 40%
" Military..... dis 1.60
B. B. Caps, Round Ball..... dis 1.45
" Swaged Conical..... 1.75

NEW LIST ON CARTRIDGES.
Rim-fire, 22 short..... \$5 long..... \$6.00
" 32 " 10 " 15.50
" 38 " 18 " 18.00
" 41 " 15 " 17.50
Central Fire—32, \$11.00; 38, \$13.50; 41, \$15.00; 44, \$19.
Horse and Curry, new list, July, 1881..... dis 10%
Cotton, new list, July, 1881..... dis 10%
Wool, new list, July, 1881..... dis 10%

Cast Steel, Polished..... 1/2 doz \$5.00, dis 30%
Cast Iron, Steel Points..... 1/2 doz \$2.00, dis 50%
Bullard's..... dis 25%
CASTERS.
Bed..... dis 55%
Plate and Shallow Socket..... dis 55%
Deep Socket..... dis 25% to 10%
Martin's Patent (Phoenix)..... dis 25%

CATTLE LEADERS.
Humason, Beckley & Co's..... dis 60% to 10%
Sargent's..... dis 60% to 10%
P. S. & W..... dis 25% to 10%

CHAIN.
German Halter and coil Chain..... dis 50% to 10%
Trace, Breast and Fancy..... dis 60%
Oneida Halter Chain (old list)..... dis 45% to 10%
Galvanized Pump Chain..... 1/2 lb 6c net
Jack Chain, Iron..... dis 70%
Jack Chain, Brass..... dis 60% to 10%

CHALK.
White..... gross 60¢ net
Red..... gross 85¢ net
Blue..... gross \$1.00 net
White Crayons..... gross 9¢ net
COTTON LINES.
Cotton Fish Lines..... dis 33% to 10%
Cotton Chalk Lines, 20 feet:
Nos. 11, 13, 15, 17, 20, dis 40%
3.20 3.60 4.00 4.50 5.25, dis 40%

CHISLS.
Socket Framing, Crossmans..... dis 65% to 10%
Socket Firmer, Crossmans..... dis 65% to 10%
Socket Framing & Firmer..... No. 1. Extra.
Socket, Douglass..... 75% 75%
Socket, Ohio Tool Co..... 75% 75%
Socket, Peck, Stone & Wilcox..... 75% 75%
Socket, Corner..... 75%
Tanged Firmer, Douglass..... dis 40% to 10%
Tanged Firmer, Butcher's..... \$5.00 to 10%
I. Merrill's Socket and Framing Chisel..... dis 65% to 10%

CLAMPS.
Iron, Screw, Eagle..... dis 50%
Iron, Adjustable, Stearns..... dis 50% to 10%
Iron, Cabinet, Sargent's..... dis 60% to 10%
Iron, Carriage maker's, Carr & Crawley..... dis 25%
CLIPS, AXLE.
Norway or Best..... dis 60% to 10%
Superior..... dis 45% to 10%
Comestogo..... dis 60% to 10%
Coal Hods—Griffiths..... dis 40%

COCKS, BRASS.
Racking, new list..... dis 55% to 10%
Globe, new list..... dis 55% to 10%
Plain Bibbs..... dis 55% to 10%
Ale and Beer, new list..... dis 55% to 10%
COFFEE MILLS.
Parker's..... dis 45%
Wilson's..... dis 40% to 10%
Logan & Strobidge..... dis 45%
Enterprise Mfg. Co..... dis 25%

COMPASSES, DIVIDERS, &c.
Compasses..... dis 60% to 10% to 10%
Calipers..... dis 60% to 10% to 10%
Dividers..... dis 60% to 10% to 10%
Cook's Pencil..... dis 10%

(Awarded First-Class Medal at New Orleans.)

STEPHENS' VISES.

With STEEL FACED or SOLID STEEL SLIDING JAW, and ADJUSTABLE ATTACHMENTS. Superior in Make, Grip, Strength and Durability, and more economical in Time and Labor than any other Vise. Jewelers, Machinists in general, and Car and Locomotive Builders in particular, will find them especially adapted to their need. Also STEPHENS' PATENT PLANER CHUCKS. Sold by hardware, machinery and tool dealers. Send for descriptive circular and price-list.

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Patent Combination Gauge.

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The advantage of this cutter is seen at a glance. The adjustable jaws are its main feature. These are made of the best tool steel, and are brought to a keen cutting edge before being tempered. The cutting quality is unsurpassed. Whenever they become dulled by use, they can easily be removed, by driving from the end showing price-mark, ground, and as easily replaced. This may be repeated as often as expedient; or they can be replaced by duplicate jaws, thus obviating the necessity of purchasing new cutters. Five sizes 6, 8, 10, 12 and 14 inch. If your merchant does not keep them, address

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*MADE OF MALLEABLE
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**Architectural Iron Work,
Plain and Ornamental Iron
Fencing, Mall. Iron Crest-
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Cellar Guards, etc.**

**JAIL WORK
SPECIALTY.**



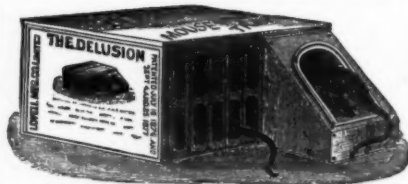
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 **CONTRACTORS AND BUILDERS IN THE SOUTH** it will pay you to write for our catalogues and price-lists. Correspondence solicited.



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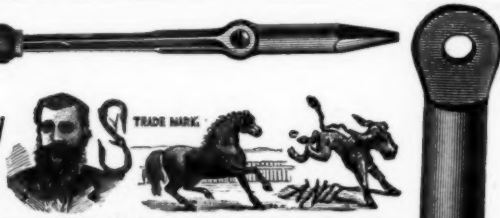
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Self-Setting TRAP.



"The mouse goes in to get the bait
And shuts the door with his own weight,
And then he jumps right through a hole
And thinks he's out; but, bless his soul,
He's in cage, somehow or other,
And sets the trap to catch another."

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Manuf'g Company
WEST TROY, N. Y.



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Ties, Halter Chains, Martingale Chains, Rein Chains, Post Chains, Butt
Chains, Back or Cart Chains, Log Chains, Stake Chains, Trace Chains.
Also, STUD, CABLE AND COIL CHAIN. CHAINS OF ALL KINDS
MADE FROM SAMPLE OR DRAWING.

PATENT ADJUSTABLE SOLDERING IRONS.

CHAS. P. FAY.

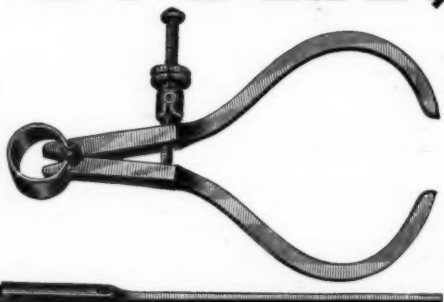
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THE DOMESTIC CLOTHES TONGS COMBINATION.
For lifting hot clothes out of boiling water while washing. For holding cloth or sponge while cleaning windows, walls, ceilings, etc., thus avoiding climbing outside of windows and the use of step-ladders. For placing or removing picture-cords, window-curtains, etc. Price low. Sells on sight. Every family wants one. **DOMESTIC NOVELTY CO., 162 W. 4th st., CINCINNATI, OHIO.**

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SHRIVES.
Sliding Door, M. W. & Co., List.....dis 48 1/2
Sliding Door, R. & E. List.....dis 60 1/2
Sliding Door, Patent Roller.....dis 60 1/2
Sliding Door, Pt. Roller, Hatfield's.....dis 60 1/2
Sliding Door, Russell's Anti-Friction.....dis 60 1/2
Also see Hangers.

SHOVELS AND SPADES.
Ames, New List, July 1, 1887.....dis 15 1/2
Griffiths.....dis 50 1/2
Remington's (Lowman's Patent).....dis 30
Rowland's.....dis 60
Kimball's.....dis 35
Lippincott, new list.....dis 20
Hussey, Bins & Co.....dis 15 1/2

SPOKE TRIMMERS.
Bonney's.....dis 10, dis 40 1/2
Stearns.....dis 10, dis 20 1/2
Ives.....No. 1, \$15; No. 2, \$12 1/2
Douglass.....dis 10, dis 15 1/2

SILVER PLATED WARE.
Wm. Rogers Manf. Co.....dis 50, 58 1/2
Holmes, Booth & Hayden.....dis 40 1/2
Brown Bros.....dis 40 1/2
Wallace's Steel Silver Plated.....dis 33 1/2
Rogers Bros 1847.....dis 50
C. Rogers & Bro.....dis 40, 10 1/2

SILVER PLATED HOLLOW WARE.
Wm. Rogers Manf. Co.....dis 40, 15 1/2
Meriden Britannia Co.....dis 33 1/2

SOLDERING IRONS AND COPPERS.
Covert's Soldering Irons.....dis 35 1/2
Covert's Adjustable Coppers.....dis 35 1/2

SPOONS.
Britannia.....dis 60 1/2
Tinned, Iron, Table and Tea.....dis 65
Tinned Iron Basting.....dis 65
German Silver.....dis 40

STONE.
Hindustan No. 1, 5c; Axe, 8c.....net
Sand Stone.....dis 10, 6c, dis 33 1/2
Washita Stone.....No. 1, 16c, net
Washita Stone, Slips.....No. 1, 45c, net
Arkansas.....\$1.50 per lb., net

SQUARES.
Steel.....dis 60 1/2; full cases, dis 60 1/2
Iron.....dis 60 1/2; full cases, dis 60 1/2
Nickel Plated.....add \$2.50 per doz net
Try Square and T Bevels.....dis 50 1/2
Diston's Try Square and T Bevels.....dis 40

TACKS, BRADS, &c.
[Less 10 1/2% for cash if paid by 6th of month following sale.]

American Iron Carpet Tacks, all kinds.....65
Steel Carpet Tacks, all kinds.....60
Swedes Iron Carpet Tacks, all kinds.....60
Swedes Iron Upholsterers' Tacks.....60
Tinned Swedes Iron Tacks.....60
Tinned Swedes Iron Upholsterers' Tacks.....60
American Iron Cut Tacks.....55
Gimp and Lace Tacks.....50
Tinned Gimp and Lace Tacks.....50
Copper Tacks.....50
Copper Finishing and Trunk Nails.....50
Cigar Box Nails.....50
Finishing Nails.....50
Trunk and Clout Nails.....50
Tinned Trunk and Clout Nails.....50
Basket Nails.....50
Chair Nails.....50
Zinc Glaciers' Points.....45
Common and Patent Brads.....45
Hungarian Nails and Miners' Tacks.....45
Tinned Capped Trunk Nails.....30
Looking Glass Tacks.....25
Picture Frame Points.....25
Leathered Carpet Tacks.....25
Brush Tacks.....25

TAP BORERS.
Common and Ring.....dis 20 1/2
Ives' Tap Borers.....dis 15 1/2
Enterprise Mfg. Co.....dis 25 1/2

TOBACCO CUTTERS.
Enterprise Mfg. Co (Champion).....dis 25 1/2
Wood Bottom.....dis 12, dis 40 1/2
All Iron.....dis 40 1/2
Wilson's.....dis 35 1/2

THERMOMETERS.
Tin Case.....dis 75 1/2
Storm Glasses.....\$3.25 per doz.

TOW CALKS.
Winsted.....dis 9c, dis 5 1/2

TRAPS.
Game, Newhouse.....dis 35 1/2
Game, Oneida Pattern.....dis 60 1/2
Game, Blake's Patent.....dis 40 1/2
Mouse, Wood, Choker.....dis 10 1/2
Mouse, Round Wire.....dis 10 1/2
Mouse, Wire.....dis 10 1/2
Mouse, Catch-em-alive.....dis 10 1/2
Cyclon Mouse.....dis 75 cts.
Ideal Mouse.....dis 100 cts.
Boss.....dis 100 cts.
Rat, "Decoy".....dis 100 cts.
Delusion Mouse, per doz.....\$1.50

TROWELS.
Lothrop's Brick and Plastering.....dis 25 1/2
Reed's Brick and Plastering.....dis 15 1/2
Diston's Brick and Plastering.....dis 20 1/2
Clement & Maynard's.....dis 20 1/2
Worrall's Brick.....dis 20 1/2
Brades & Walby's.....dis 20 1/2
Garden.....dis 55 1/2

TRUCKS (WAREHOUSE, &c.)
Handy Truck.....\$2.50 net
Penfield Block Co's list, 1882.....dis 35 1/2
Peerless, with Cogs, No. 3.....dis 50
Peerless, with Cogs, No. 4.....dis 60
Eureka, No. 2.....dis 42 00

VISES.
Cheney's Combined Vise and Anvil.....dis 30 1/2
Solid Box.....dis 50 1/2
Trenton.....dis 45 1/2
Iron City Tool Works.....dis 50 1/2

HOW TO KEEP BOILERS CLEAN
And Prevent SCALING, FOAMING, BURNING.
Price \$75.00. Removes Lime Oil, Magnesia, without use of Compounds.



Hotchkiss Mechanical Boiler Cleaner.
Illustrated in an eighty-eight page book, which will be mailed FREE, to any address, by JAS I. HOTCHKISS, 93 JOHN ST., N. Y. Beware of Infringers.

Bench-Wilson's.
Trenton.....dis 45 1/2
Parker's.....dis 25 1/2
Prentiss.....dis 25 1/2
Bonney's.....dis 35 1/2
Well Wheels.....dis 60 1/2
Stephen's Patent Vises.....dis 10

WIRE.
Brass and Copper, list of Jan. 17, 1884.....dis 30 1/2
Bright and Annealed.....Nos. 0 to 18, dis 50 1/2
Bright and Annealed.....Nos. 19 to 26, dis 60 1/2
Bright and Annealed.....Nos. 27 to 36, dis 70 1/2
Coppered.....Nos. 0 to 18, dis 50 1/2
Galvanized, Nos. 0 to 18.....Market list dis 40 1/2
Tinned, Nos. 0 to 18.....dis 60 1/2
Tinned Broom Wire, Nos. 18 to 23.....dis 60 1/2
Annealed Grape, Nos. 10 to 14.....dis 50 1/2
Fence Staples, Galvanized.....dis 10 1/2
Japanned Barb Fence.....dis 40 1/2
Galvanized Barb Fence.....dis 50 1/2
Buck Thorn Galvanized.....dis 5 1/2
Picture Wire.....dis 60 1/2
Clothes Line Wire, Galvanized.....dis 75 1/2
Wire Cloth, green, drab and black.....sq ft ac net

AMERICAN ADJUSTABLE.
Baxter's Adjustable "S," list Jan. 1880.....dis 45 1/2
Baxter's Diagonal.....dis 50 1/2
Coes' Genuine.....dis 60 1/2
Coes' "Mechanics".....dis 60 1/2
Coes' Pattern, Malleable.....dis 75 1/2
Coes' Pattern, Wrought.....dis 60 1/2
Girard Standard.....dis 50 1/2
Girard Agl.....dis 60 1/2
Always Ready.....\$9.00-25 1/2

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Universal, X.X., No. 2.....30.00
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Universal, X.X., No. 1.....each 10.75
Universal, X.X., No. 12.....each 20.25
Universal, X.X., No. 18.....each 22.75
Universal, X.X., No. 22.....each 30.25
Peerless, no Cogs, No. 1.....42.00
Peerless, with Cogs, No. 2 1/2.....45.00
Peerless, with Cogs, No. 2.....48.00

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"Diamond" Vegetable Grater.....\$5.00 per doz., 10 1/2
Rotary Knife Potato Parer.....\$18.00 per doz., net
Metallic Shingles.....\$5.50 and \$6.50 per square.
Hopper Cherry Seeders.....\$4.00 per doz., net

Manufacturers! Merchants!
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Noiseless Rubber
WHEELS



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METAL-WORKING MACHINERY
New and Second Hand, on Hand.

12 in. S. x 5 ft. Engine Lathes.
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17 in. S. x 7 ft. Engine Lathes, Hewes & Phillips.
18 in. S. x 8 ft. Engine Lathes, New Haven.
20 in. S. x 8, 10 & 14 ft. Engine Lathes, Harris & Ames.
24 in. S. x 14 & 20 ft. Engine Lathes, Ames.
25 in. S. 10 ft. Engine Lathes.
26 in. S. x 16 ft. Engine Lathes, Perkins.
41 in. S. x 18 ft. Engine Lathes, Putnam.
50 in. in Gap Extension Bed Engine Lathes, Box.
12 in. Stroke Shapers, New Haven & Eungst.
15 in. Stroke Shapers, Wolcott & Eberhardt.
20 in. Stroke Shapers, Eberhardt.
24 in. Stroke Shapers, Bridgeport.
20 in. x 20 in. x 4 ft. Planer, New Haven.
20 in. x 20 in. x 6 ft. Planer, Whitcomb.
20 in. x 20 in. x 6 ft. Planer, Pratt & Whitney.
22 in. x 22 in. x 4 ft. Planer, Powell.
22 in. x 22 in. x 5 ft. Planer, Ames.
24 in. x 24 in. x 4 ft. Planer, Ferris & Miles.
24 in. x 24 in. x 6 ft. Planer, Powell.
24 in. x 27 in. x 7 ft. Planer, Ames.
26 in. x 26 in. x 6 ft. Planer, Powell.
26 in. x 26 in. x 6 ft. Planer, Putnam.
30 in. x 30 in. x 10 ft. Planer, National.
20 in. Swing Drill, Prentice.
25 in. Swing Drill, Blaisdell.
28 in. Swing Drill, Blaisdell.
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Brown & Sharpe Universal Miller.
Plain Miller, Lincoln Pattern.
No. 3 Miller, Garvin.
No. 5 Miller, Brainerd.
2 1/2 in. Cutting-off Machine, Pratt & Whitney.
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Also a line of New Tools all kinds. We are always glad to correspond, and if parties desiring to purchase will write, stating just what they want, we will be glad to name prices on either new or second hand.

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These Hydrants are made of the best material, and are guaranteed to be entirely non-wasting and non-freezing. The works of these Hydrants can be taken out and repaired without breaking the ground. Send for circular.

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BOILER & BRIDGE WORKS,
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Manufacturers of all Kinds of
WROUGHT IRON BRIDGES.
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BLAST FURNACES,
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Jail Cells, Bank Vaults,
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Estimates Furnished upon Application.

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MANUFACTURERS OF
WIRE GRATING FOR WINDOWS
Doors and Office Railing, Wire Screens for Banks, Churches and Store-Fronts. Woven Wire, Wire Tree-Guards, Sieves, Screens for Coal, Sand, &c.
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Wire Railing for Cemeteries, Lawns, Gardens, Offices and Balconies; Window Guards, Tree Guards, Wire Cloth, Sieves, Fenders, Cages, Sand and Coal Screens, Iron Bedsteads, Chairs, &c.

New Swing Cross Cut Saw,
with rigid iron frame and steel arbor. The frame is mounted on a heavy iron base, bolted to the joist under the floor. **Saw Mill Mandrels, Saw Machinery,** and all sizes of Saw Arbors.
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FORTRESS MONROE, NORFOLK and the SOUTH.
The Bay Line comprises the New and Elegant Steamers
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All the Comforts and Luxuries of a First-Class Hotel are afforded the Traveler. Spacious and Elegant Saloons and Staterooms, furnished with an especial view to comfort. Unsurpassed Cuisine, which is made a specialty with this Line. Elegant service and courteous attention. Steamers leave Baltimore daily except Sundays at 9 P. M.
At Old Point Comfort is located the SPLENDID HYGEIA HOTEL, a Delightful Resort at all Seasons of the Year. For Tickets and Information, apply at Company's office,
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Or on Board of Steamers.
D. J. HILL, Superintendent.
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Get the Best at First.

The Holyoke Machine Company, of Worcester, Massachusetts, advertise in this issue their well-known Hercules Water Wheel. This wheel has many points of merit that strongly commend it to the attention of those who use water power. The most thorough tests have demonstrated its many good qualities. In Holyoke it is the standard water wheel, the aggregate horse power of the Hercules wheels in operation there being greater than that of all other wheels combined. These wheels are very popular in the South as well as in the North, having been in use for many years in a large number of Southern mills. There are four of the Hercules wheels now in operation in the big cotton mills of the Eagle & Phenix Manufacturing Co., Columbus, Ga., and Mr. John Hill, of that company, in writing, Feb. 25, 1885, to the Holyoke Machine Co., said: "Within the past four years I have ordered four Hercules wheels, all of which have given the purchasers entire satisfaction. Three of the wheels are on regular duty in the Eagle & Phenix Mills. The first wheel ordered did so well that a 'Hercules' wheel has been added each time a new wheel was wanted. In the Eagle & Phenix Mills I supervise twenty water wheels of six different styles. The 'Hercules' is by far the most durable and best made wheel in use here, and, in fact, I know of no wheel its equal mechanically. It is all that can be desired in economy of water. In fact, it is a strictly first-class wheel in every way, and the wheel to buy, use and depend upon."

That is a pretty strong letter, but it is only a sample of letters received by the manufacturers of this wheel. Among the recent shipment of wheels have been two—one a 54-inch and one of 60-inch—to a Georgia cotton mill. Two Hercules wheels are being put in at Natick Cotton Mill, and one at the Arctic Mill of B. B. & R. Knight near Providence. This will make eleven wheels furnished to this well-known firm, one of the most prominent in the manufacturing line in New England. Hercules wheels are sold in England, Ireland and Scotland, and on the Continent, a cable order having been received only a few days ago for one to go to France. The manufacturers say: "The Hercules gives the most power for its size and the highest average percentage from full to one-half gate of any wheel ever made." Their advice to all users of water wheels is to "get the best at first." If you are interested in water wheels, if you want a new wheel or a larger wheel, or a better wheel than you are using, write to the Holyoke Machine Co., Worcester, Mass., for catalogue No. 3.

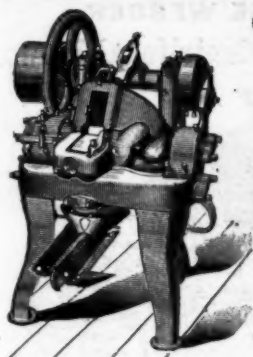
ESTABLISHED 1860.
KREHL, HAUSER & CO.
TANNERS OF
OAK Leather.
ALSO MANUFACTURERS OF
Leather Belting,
Girard, Trumbull Co., Ohio.
SPECIALTIES—Harness, Black and Fair Bridles, Line Leather, Saddle and Shoe Skirting, Russett and Stained Rein Welt, Fly-Net and Collar Leather. Superior Harness Backs. Write for prices.
Mention this Paper.

SEND FOR CIRCULAR
THE GREATEST
ROCK BREAKER
ON
EARTH
CAPACITY 100 TONS
ONE TON A MINUTE
GATES IRON WORKS
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TOOLS for Machinists, Amateurs, Jewellers, Model Makers, Blacksmiths, Carpenters, Coachmakers, etc.
Send 20 cts. for new Metal Worker's Catalogue, 500 Pages. Wood Worker's Catalogue free.
TALLMAN & McFADDEN, Philadelphia, Pa.

Established 1867.
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Works and Office,
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Manufacturers of a full line of
Iron Working Machinery.
INCLUDING
Extension and Gap Lathes, Planers with Quick Return, Drills, &c. Hand Power Elevators with Patent Brake, Double Chain Screw Hoist, OVERHEAD TRAMWAY, with Switch, Turntable and Geared Truck.

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The American Nail Machine Co.

MANUFACTURERS OF
AMERICAN PATENT

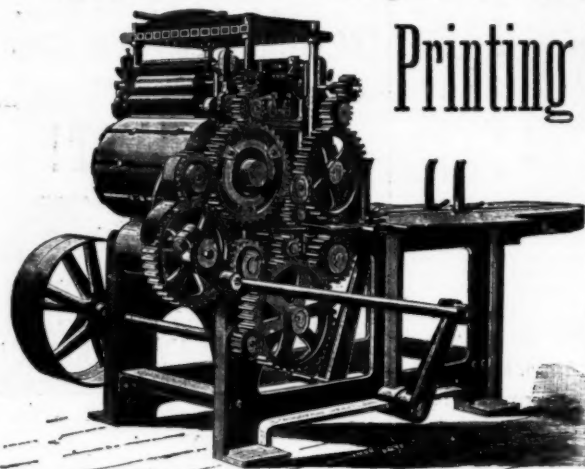
Improved Cut Nail Machines,

AUTOMATIC NAIL SELECTORS and NAIL
FACTORY SUPPLIES,

ASHTABULA, - - - OHIO.

Prices and particulars furnished on application.

Patented Two-Color Packing Box and Advertising Sign



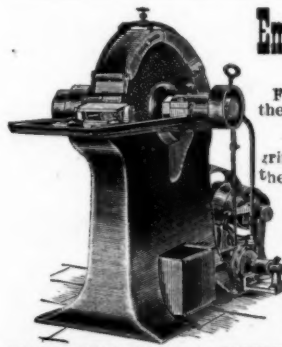
Printing Machine.

Feeds automatically
from 1,500 to 1,800 per
hour, and prints both
colors in perfect regis-
ter at one operation.

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Nos. 8 to 14

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Emery Wheel Tool Grinder.

Pat. Sept. 25th, 1893.
Four sizes of each of
these designs.

Grinds much FASTER than
grindstones and will soon save
their cost. WHEELS ARE MADE
TO RUN IN WATER. Will ship
on their merits for 30 days'
trial, and if not satisfactory can
be held subject to our order.
We make the largest
line of machinery with
Emery wheels running
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SPRINGFIELD GLUE & EMERY WHEEL COMPANY.



SPRINGFIELD, MASS.



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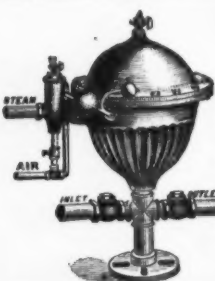
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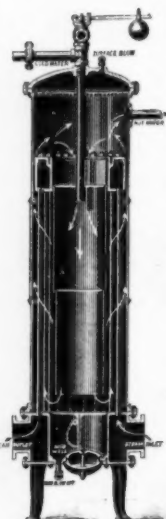
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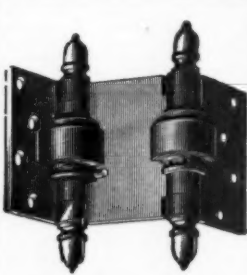


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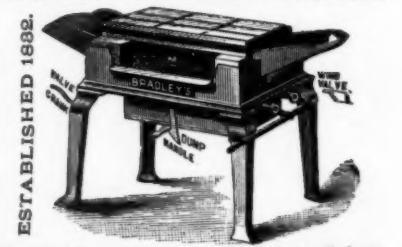
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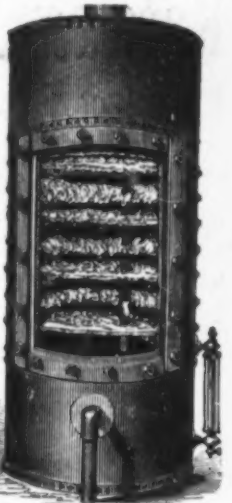
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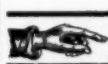
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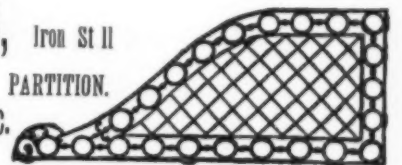
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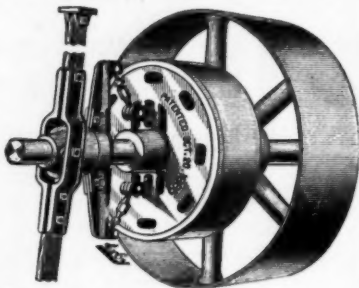
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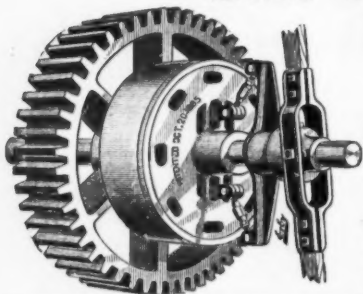
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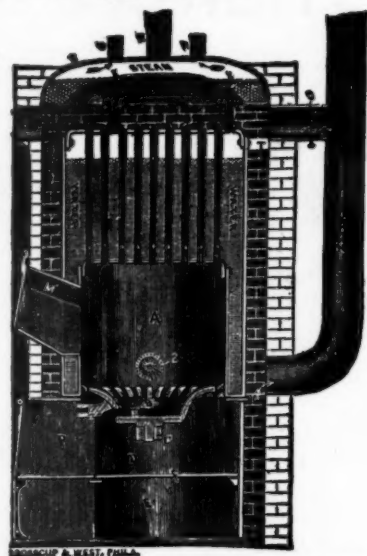
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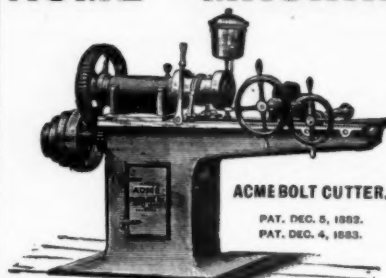
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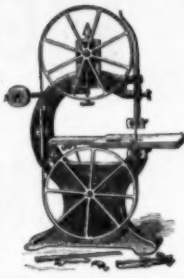
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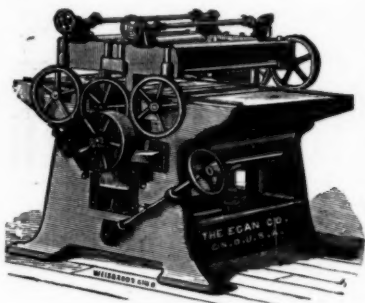
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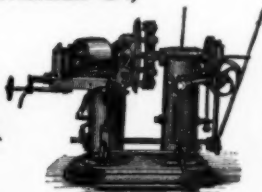
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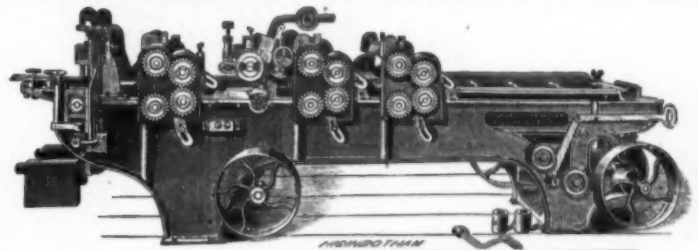
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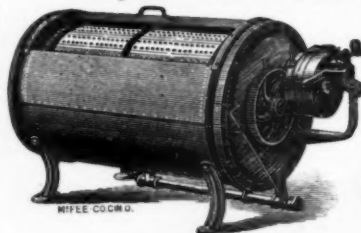
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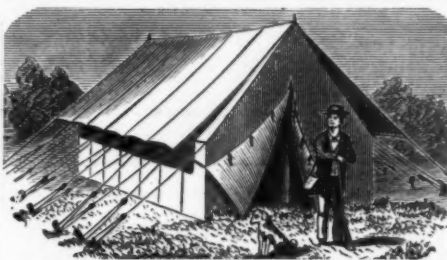
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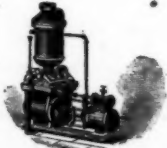
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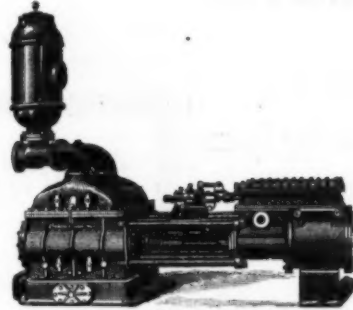
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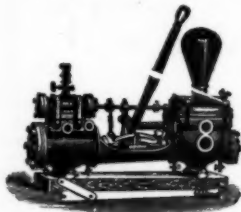
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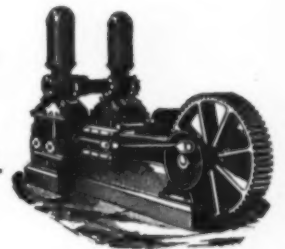
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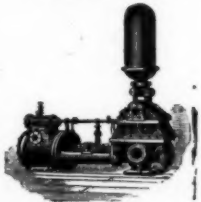
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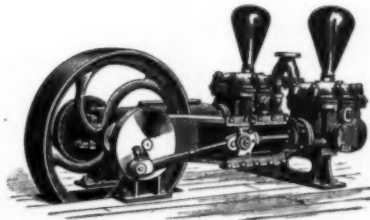
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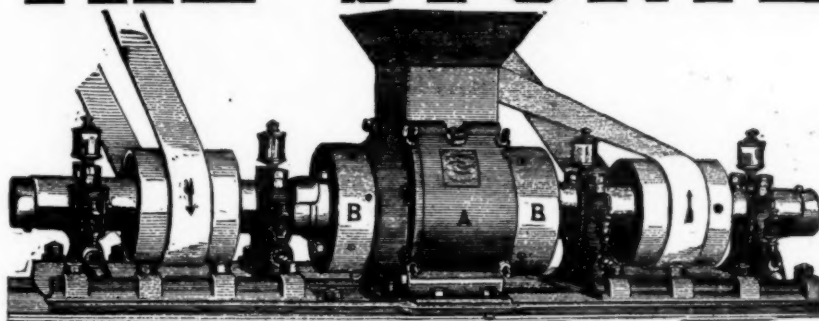
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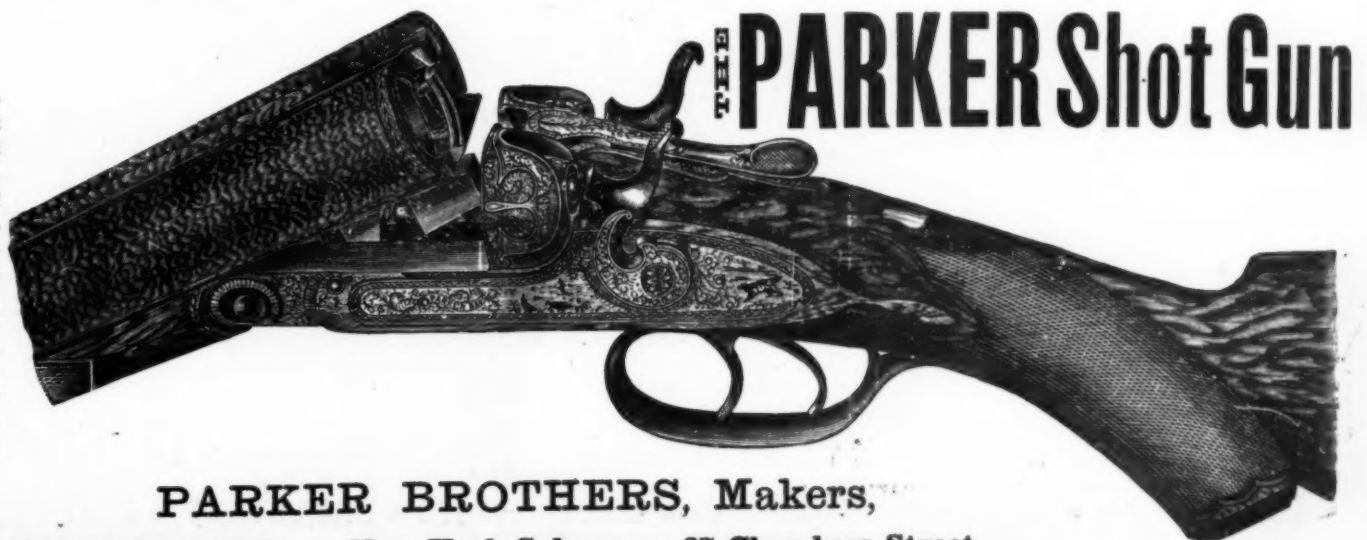
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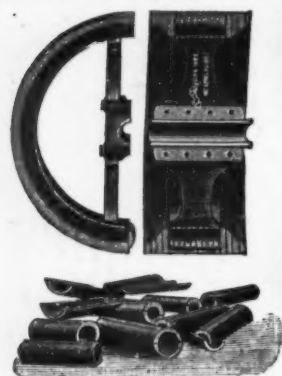
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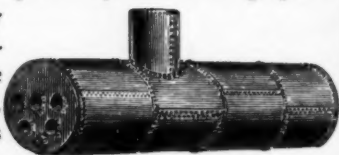
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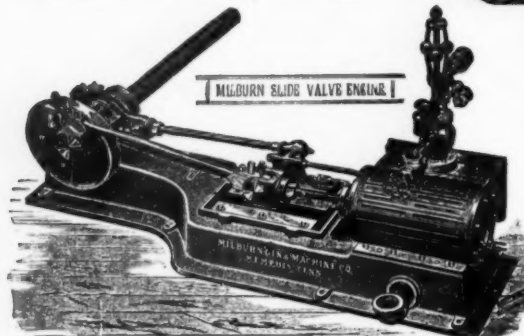
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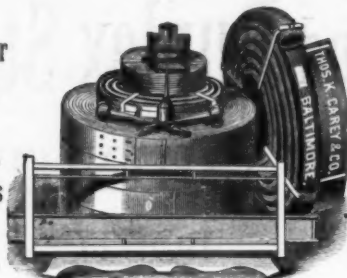
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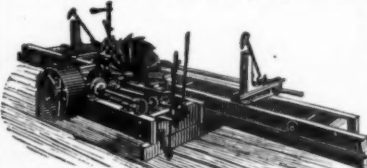
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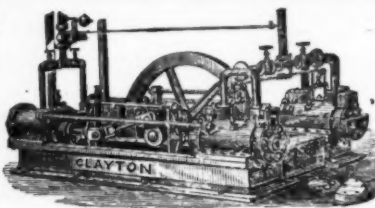
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